SOUTH CAROLINA
CANCER FACTS AND FIGURES
2004 - 2005

South Carolina Central Cancer Registry
Office of Public Health Statistics and Information Services
South Carolina Department of Health and Environmental Control
2600 Bull Street, Columbia, South Carolina 29201
October 2005

ACKNOWLEDGEMENTS

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Financial support was provided by the Centers for Disease Control and PreventionCooperative Agreement Number U55/CCU421931-04.

Suggested Citation: Johnson MG, Hardy WR, Mosley CM, Andrews VC, Bolick-Aldrich SW. *South Carolina Cancer Facts and Figures 2004-2005*. South Carolina Central Cancer Registry, Office of Public Health Statistics and Information Services, South Carolina Department of Health and Environmental Control, and the American Cancer Society, Southeast Division, October 2005.

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INTRODUCTION

This report represents the second Cancer Facts and Figures publication for the state of South Carolina, produced by the South Carolina Central Cancer Registry (SCCCR). *South Carolina Cancer Facts and Figures 2004-2005* was written to address the impact of cancer on South Carolinians.

Cancer is a major public health problem in South Carolina. Current estimates are that 1 in 2 males and 1 in 3 females will develop cancer at some point in their lives. In addition, cancer is the second leading cause of death in South Carolina. South Carolina also has some of the highest rates of cancer death in the nation, ranking 2nd in the nation in multiple myeloma, 3rd in the nation in prostate cancer and oral/pharyngeal cancer deaths, and 4th in the nation in pancreatic cancer deaths.

South Carolina Cancer Facts and Figures 2004-2005 was written to assist American Cancer Society volunteers and staff, local community groups, and health professionals in providing programs and services to the public, cancer patients, and their families. This report was also written for those who simply want to know more about cancer where they live.

The data in this report can be used to measure outcomes and the effectiveness of cancer control programs, as well as to develop future goals and programs to reduce the burden of cancer on South Carolinians.

This report includes: 1) 2005 estimates of new cancer cases and deaths in South Carolina and the United States from the American Cancer Society; 2) 1996-2001 cancer incidence data for South Carolina; 3) 1996-2001 cancer mortality data for South Carolina; 4) the prevalence of cancer screening for specific cancers in South Carolina; 5) the prevalence of cancer risk factors in South Carolina.

How Does South Carolina Rank* in Cancer Mortality?

Multiple Myeloma	2nd
Oral/Pharynx	3rd
Prostate	3rd
Pancreas	4th
Esophagus	3rd
Cervix	8th
Stomach	11th

*Rank among the 50 states and District of Columbia. A rank of 1st means South Carolina has the highest mortality rate of any state and the District of Columbia.
Source: SEER STAT, 1996-2001

South Carolina Cancer Facts

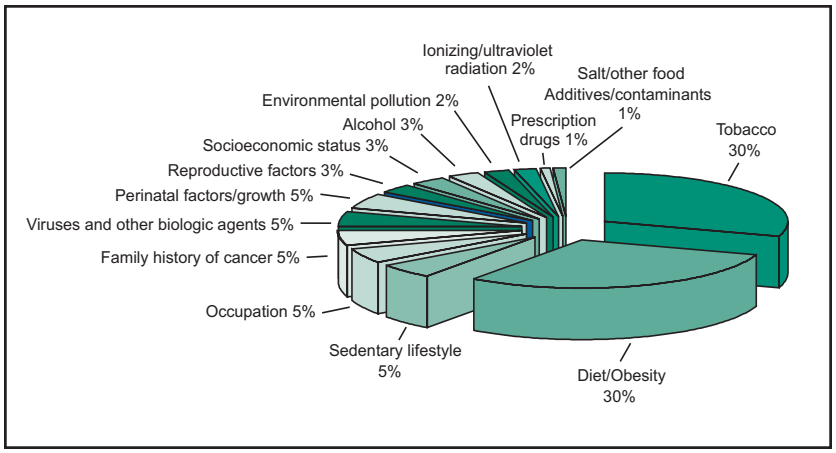
- Cancer is the second leading cause of death in South Carolina accounting for 22% of all deaths between 1996-2001.
- From 1975-1991, cancer death rates in South Carolina increased 39%. In recent years, cancer death rates have decreased. From 1991-2000, cancer deaths decreased 2.5%.
- The four most common types of cancer death from 1996-2001 were lung, colon/rectum, breast, and prostate cancer deaths. Lung cancer alone caused more deaths than colon/rectum, breast, and prostate cancers combined.
- South Carolina ranks 2nd in the nation in multiple myeloma deaths, and 3rd in the nation in prostate cancer and oral/phayrnx deaths.
- Two out of every five South Carolinians will develop cancer at some point in their lives.
- Prostate, lung, breast, and colon/rectum cancers were the top four types of cancer diagnosed in South Carolina from 1996-2001. Together these cancers accounted for 58% of new cancer diagnoses.
- Black men in South Carolina are more often diagnosed with prostate cancer than White men; while White women in the state are more often diagnosed with breast cancer than Black women.
- In South Carolina, Whites are more often diagnosed with early stage cancer than Blacks. From 1996-2001, 47% of Whites were diagnosed with early stage cancer compared to 40% of Blacks in South Carolina.

BASIC CANCER FACTS

What is Cancer?

Cancer is not one disease, but a group of diseases. For example, lung cancer is a completely different disease than colorectal cancer or prostate cancer. All cancers have one thing in common, if they are not treated properly, they can grow and spread uncontrollably, which can result in death. Cancer is caused by many factors, some are modifiable, such as smoking, and others cannot be changed, such as age. Factors can also be considered internal (genetic/family history) and external (exposure to certain industrial substances) *(Figure 1)*.

Figure 1. Causes of Cancer in the United States



Source: Cancer Causes & Control, Harvard Report on Cancer Prevention, 1996

Can Cancer Be Prevented?

Adjusting certain risk factors can prevent many cancers. Almost two-thirds of all cancer deaths are related to modifiable risk factors such as tobacco use, obesity, and physical inactivity. Many skin cancers can be prevented by regular protection from the sun's rays. Regular screening examinations, such as mammograms, flexible sigmoidoscopies, and colonoscopies, by a health care provider can result in the early detection of many cancers, when treatment is more likely to be successful.

Who Is at Risk of Developing Cancer?

Everyone. The greatest risk factor for any cancer is increasing age. As people age, their risk of developing cancer also increases. Over 75% of all cancers in South Carolina are diagnosed in people aged 55 and older. In the United States, 1 out of 2 men and 1 out of 3 women will develop cancer in their lifetime.

How Is Cancer Treated?

Cancer is most often treated by surgery, radiation, chemotherapy, hormones, and immunotherapy (agents to stimulate the body's defenses) or a combination of two or more of these methods.

How Many New Cases are Expected to Occur This Year?

In 2005, the American Cancer Society estimates that 1,372,910 new cancer cases will be diagnosed in the United States, which is over 3,700 cases per day. Approximately 21,860 of those are expected to be diagnosed in South Carolina *(Figure 2)*. These estimates do not include basal and squamous cell skin cancers or carcinoma in situ for sites other than urinary bladder. Nationally, more than 1 million cases of basal and squamous cell skin cancers will be diagnosed in 2005.

How Many People are Expected to Die of Cancer This Year?

Cancer is the second leading cause of death in the United States and in South Carolina. In 2005, the American Cancer Society estimates that 570,280 Americans will die of cancer, which is more than 1,500 people per day. Approximately 9,080 cancer deaths are expected to occur in South Carolina *(Figure 3)*.

How is Cancer Staged?

The stage of cancer describes the extent or spread of the disease from the organ or site of origin at the time of diagnosis. The stage is based on the primary tumor's size and location in the body, as well as if the tumor has spread to other parts of the body. Staging is important in detemining the treatment and prognosis for each cancer patient. There are several different staging systems that are used to classify cancer. This report uses the SEER General Summary Staging System. This system

includes five stages: in situ, localized, regional, distant, and unstaged. Cancer cells that are present only in the layer of cells where they developed and have not spread are staged as in situ. Cancer cells that have spread beyond the original layer of tissue are staged as invasive. Localized, regional, and distant staged cancers are considered invasive. An additional way to group cancers is by early and late stage. In this report, in situ and localized are considered early stage. Regional and distant are considered late stage.

What Are the Costs of Cancer?

Using estimates from the National Institutes of Health, the overall annual cost of cancer in South Carolina is approximately $2.6 billion; $8.7 million for direct medical costs (total of all health expenditures), $2.2 million for indirect morbidity costs (cost of lost productivity due to illness), and $1.5 billion for indirect mortality costs (cost of lost productivity due to premature death). Insurance status and barriers to health care may affect the cost of treating cancer in this country.

Figure 2. New Cancer Cases in South Carolina and the United States, 2005 Estimates*

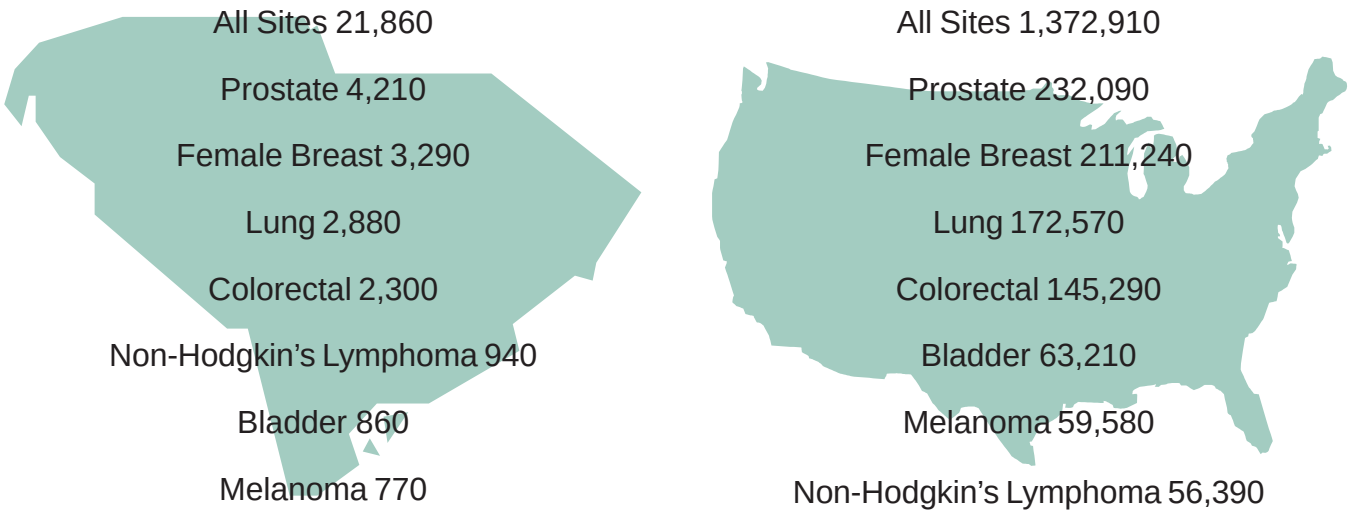
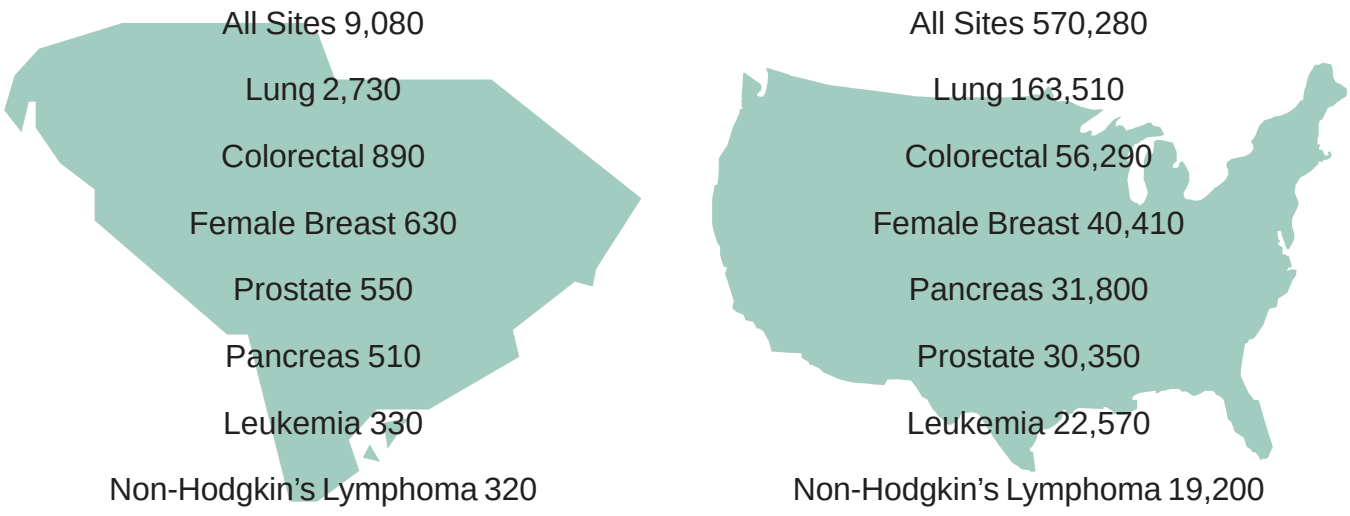


Figure 3. Cancer Deaths in South Carolina and the United States, 2005 Estimates*



*Estimates rounded to the nearest 10. Exclude basal and squamous cell skin cancers and in situ carcinomas except urinary bladder.
Source: American Cancer Society, Inc., Surveillance Research, 2005 and US Mortality Public Use Data Tapes, 1969-2002, National Center for Health Statistics, CDC, 2004

ALL CANCER SITES

Incidence

Cancer is a common disease. One out of two men and one out of three women will develop cancer in their lifetime. As a person ages, his or her risk of developing cancer increases. In South Carolina, over 75% of all cancers are diagnosed in individuals over age 55.

From 1996 to 2001, a total of 106,671 cancers were diagnosed in South Carolina *(Table 1)*. Black males have the highest incidence rate of any race-sex group in South Carolina.

There are several counties in the midlands and along the coast where incidence rates are significantly higher than the state average *(Figure 4)*.

The American Cancer Society estimates that 21,860 new cases of cancer will occur in South Carolina in 2005.

Mortality

Cancer is the second leading cause of death in the United States and in South Carolina, exceeded only by heart disease. In the United States, 1 of every 4 deaths is from cancer. Males in South Carolina are 70% more likely to die of cancer than females. Black males have the highest mortality rate of any race-sex group in South Carolina *(Figure 5)*.

South Carolina currently ranks 15th in the nation in all cancer sites mortality. An estimated 9,080 South Carolinians are expected to die of cancer in 2005.

Figure 4. All Cancer Sites Incidence Rates by County, South Carolina, 1996-2001

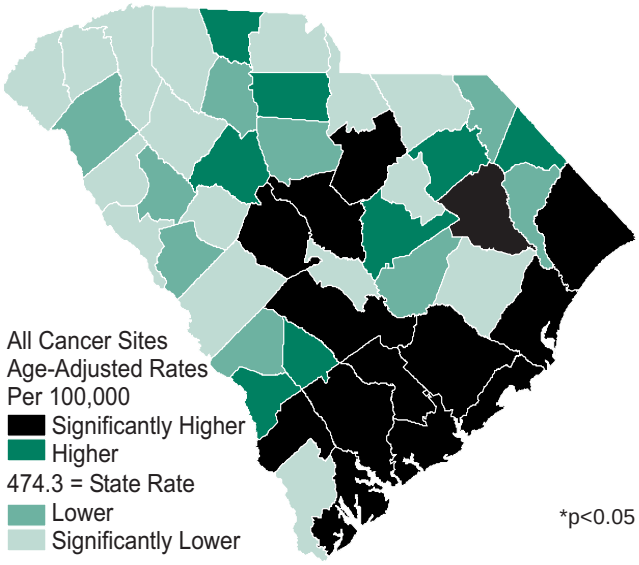
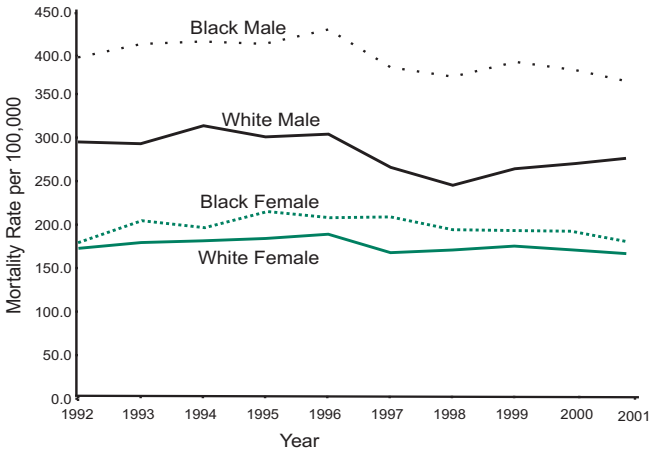


Figure 5. All Cancer Sites Mortality Rates* by Race and Sex, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Risk Factors

Age:
As age increases the risk of developing cancer increases.

Sex:
Males are at a higher risk of developing cancer than females.

Race:
Blacks are at a higher risk of developing cancer than whites.

Lifestyle:
Tobacco use increases the risk of developing cancer, including lung, oral/pharynx, larynx, esophagus, pancreas, bladder, kidney, and cervical cancers.

Excessive alcohol use, especially when combined with smoking, increases the risk of oral/pharynx, esophagus, larynx, and liver cancers.

Family History:
A family history of breast, ovary, or colon cancer can put an individual at increased risk for these types of cancer.

Table 1. All Cancer Sites Incidence and Mortality in South Carolina

Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	42,291	14,075	57,158	37,441	11,438	49,503	106,671
SC Incidence Rate (1996-2001)	567.1	684.9	596.8	399.7	367.6	393.6	474.3
SEER Incidence Rate (1996-2001)	557.3	692.1	555.3	428.9	401.7	414.1	470.4
Mortality*							
Number of Deaths (1996-2001)	18,322	7,445	25,834	15,705	5,854	21,652	47,486
SC Mortality Rate (1996-2001)	266.0	388.5	291.8	162.7	191.6	169.9	216.7
US Mortality Rate(1996-2001)	247.3	351.5	253.1	166.2	197.2	167.4	200.9

*Numbers and rates exclude in situ cancers, except bladder. Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Stage of Disease

Stage of disease refers to the extent to which cancer has spread when discovered. In general, the earlier the stage, the better the chances of survival. For common cancers such as breast, prostate, colorectal, cervix, and melanoma of skin, survival rates are between 90 and 95 percent if the cancer is discovered before it has spread beyond the organ of origin.

In South Carolina from 1996-2001, more cancers were diagnosed in early stage (i.e. in situ and localized) than in late stage (i.e. regional and distant) of disease, 48.6% and 39.2% respectively *(Figure 6)*.

However, a different pattern emerges when looking at stage at diagnosis by race. Whites in South Carolina are more likely to be diagnosed with early stage disease, while blacks are more likely to be diagnosed with late stage disease. From 1996-2001, 50.5% of whites and 42.0% of blacks were diagnosed in early stage. A total of 37.9% of whites and 44.0% of blacks were diagnosed with late stage disease *(Figure 7)*.

Figure 6. Stage at Diagnosis for All Cancer Sites South Carolina, 1996-2001

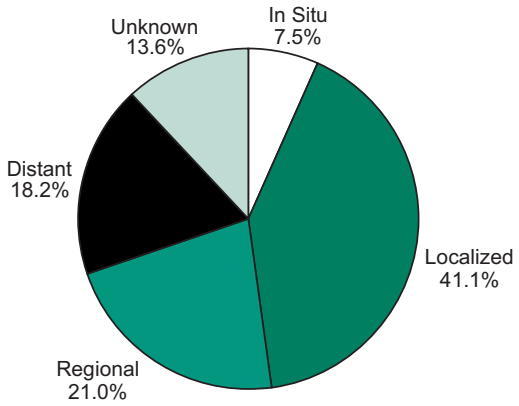
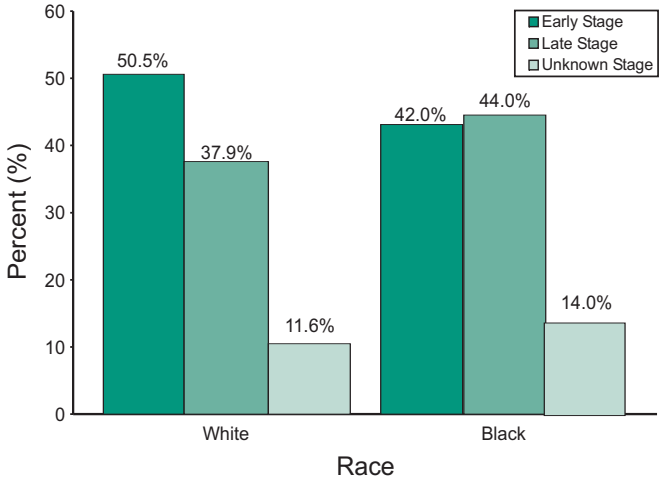


Figure 7. Stage at Diagnosis for All Cancer Sites by Race, South Carolina, 1996-2001



American Cancer Society (ACS) 2015 Challenge Goals

- A 50% reduction in overall age-adjusted cancer mortality rates.
- A 25% reduction in overall age-adjusted cancer incidence rates.
- A measurable improvement in the quality of life (physical, psychological, social, and spiritual) from the time of diagnosis and for the balance of life, of all cancer survivors.

BLADDER CANCER

Incidence

Bladder cancer is more common in men than in women. It is the 5th most common cancer in South Carolina men and women. From 1996-2001, a total of 4,177 bladder cancers were diagnosed in South Carolina *(Table 2)*. White males had the highest incidence rate of any race-sex group in South Carolina.

There are four counties (Berkeley, Beaufort, Horry, Pickens) that have incidence rates significantly higher than the state average *(Figure 8)*.

The American Cancer Society estimates that 860 new cases of bladder cancer will occur in South Carolina in 2005.

Mortality

Bladder cancer accounted for almost 2.0% of all cancer deaths in South Carolina between 1996-2001. Overall, bladder cancer mortality is nearly three times higher in men than in women.

Bladder cancer mortality rates vary from year-to-year. However, white males in South Carolina have consistenly higher bladder cancer mortality rates than any other race-sex group *(Figure 9)*.

South Carolina currently ranks 31st in the nation in bladder cancer mortality.

Figure 8. Bladder Cancer Incidence Rates by County, South Carolina, 1996-2001

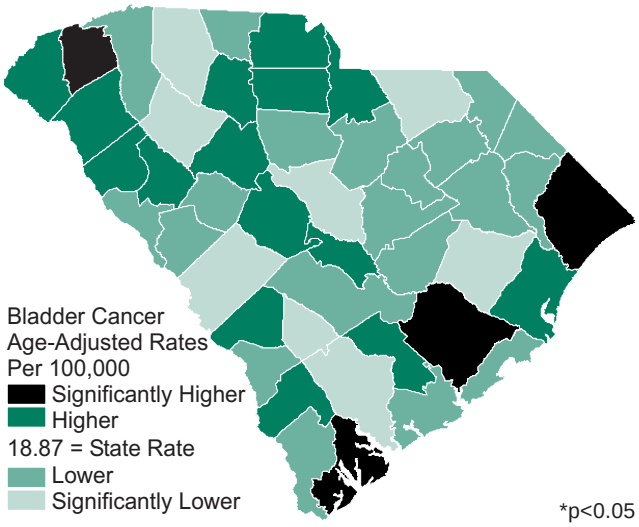
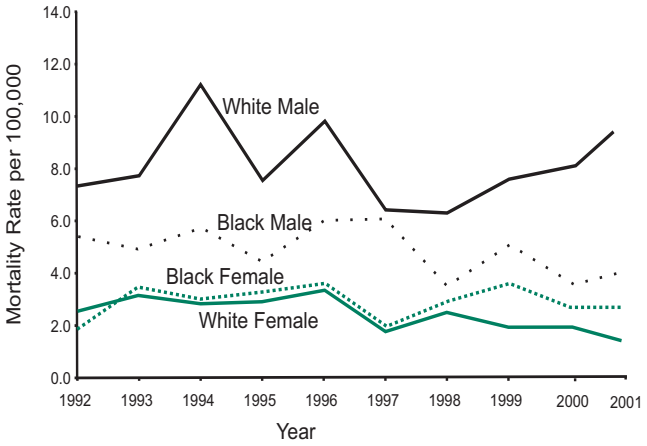


Figure 9. Bladder Cancer Mortality Rates* by Race and Sex, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Risk Factors

Age:
Risk increases with age.

Sex:
Males are at higher risk of developing bladder cancer than females.

Race:
Whites are two times more likely than blacks to develop bladder cancer.

Lifestyle:
Smokers are twice as likely as nonsmokers to develop bladder cancer.

Workplace:
Certain chemicals used in the making of dye have been linked to bladder cancer.

Personal History:
A personal history of bladder cancer can put an individual at increased risk for this same type of cancer. Chronic bladder inflammations, such as from urinary infections, kidney stones or bladder stones, have been linked to bladder cancer.

Table 2. Bladder Cancer Incidence and Mortality in South Carolina

Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	2,852	310	3,192	792	185	985	4,177
SC Incidence Rate (1996-2001)	40.2	16.8	35.4	8.1	6.2	7.7	18.9
SEER Incidence Rate (1996-2001)	39.8	20.2	36.1	9.8	7.6	9.1	20.3
Mortality*							
Number of Deaths (1996-2001)	510	81	593	211	88	302	895
SC Mortality Rate (1996-2001)	8.1	4.7	7.3	2.1	3.0	2.3	4.2
US Mortality Rate(1996-2001)	8.0	5.7	7.6	2.3	2.9	2.3	4.4

* Numbers and rates include in situ bladder cancers. Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Stage of Disease

The majority, 81.3%, of South Carolinians diagnosed with bladder cancer from 1996-2001 were diagnosed with early stage disease *(Figure 10)*. In general, the earlier the stage, the better the chances of survival.

Whites are diagnosed more often with early stage bladder cancer than blacks. From 1996-2001, 82.7% of whites and 71.5% of blacks were diagnosed in early stage. A total of 11.5% of whites and 19.8% of blacks were diagnosed with late stage disease *(Figure 11)*.

Prevention

Smoking is the greatest risk factor for bladder cancer. A smoker has twice the risk of developing bladder cancer as a nonsmoker. Smoking is estimated to be responsible for almost half of all bladder cancer deaths among men and over a third of all bladder cancer deaths among women. Therefore, not smoking is an important strategy in preventing bladder cancer.

Those persons working with a class of chemicals called aromatic amines have an increased risk of bladder cancer. Industries where the chemicals are commonly used include makers of rubber, leather, printing materials, textiles, and paint products. It is important to follow good work safety practices when working with the chemicals.

Recent studies have suggested that drinking plenty of fluids and consuming broccoli (broccoli sprouts in particular) and cauliflower can help to lower the risk of bladder cancer.

Figure 10. Stage at Diagnosis for Bladder Cancer, South Carolina, 1996-2001

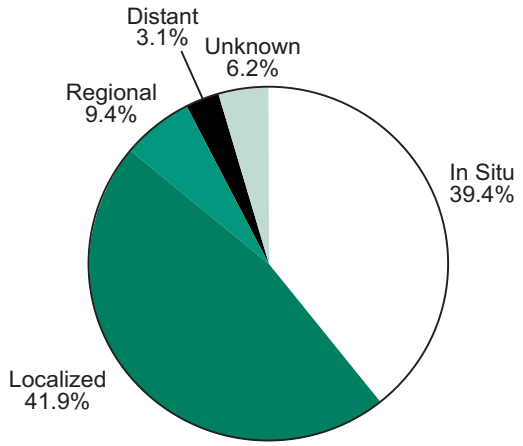
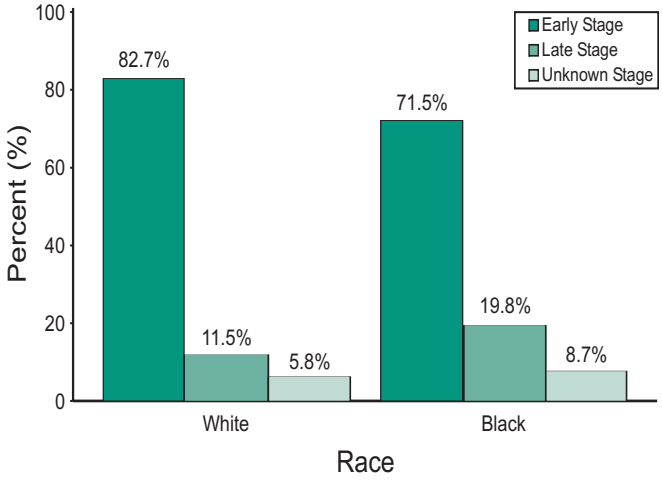


Figure 11. Stage at Diagnosis for Bladder Cancer by Race, South Carolina, 1996-2001



BREAST CANCER

Incidence

Breast cancer is the most commonly diagnosed cancer among women in South Carolina, regardless of race, accounting for 32% of all female cancer cases. Breast cancer occurs in both women and men, but women are at a much higher risk of developing breast cancer. From 1996-2001, a total of 15,696 female breast cancers were diagnosed in South Carolina *(Table 3)*.

There are four counties (Allendale, Beaufort, Dorchester, Richland) that have incidence rates significantly higher than the state average *(Figure 12)*.

The American Cancer Society estimates that 3,290 new cases of breast cancer will occur among South Carolina females in 2005.

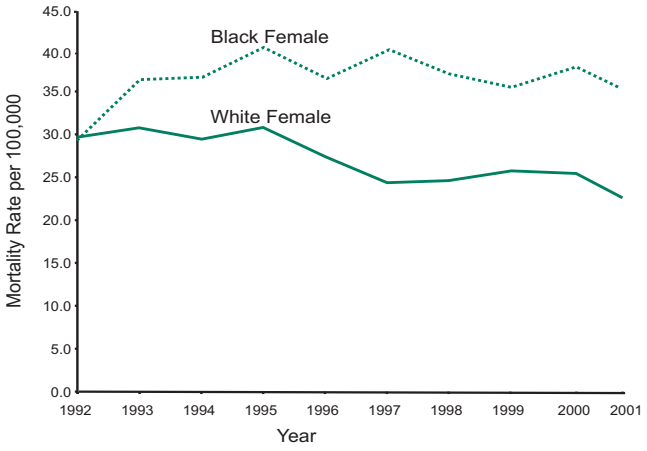
Mortality

Breast cancer is the second leading cause of cancer death in South Carolina females, accounting for 16% of all cancer deaths in females between 1996-2001. Overall, breast cancer mortality is 1.5 times higher in black women than in white women in South Carolina.

Over the last few years, breast cancer mortality rates have shown an overall decrease for white females, while rates for black females in South Carolina have fluctuated *(Figure 12)*.

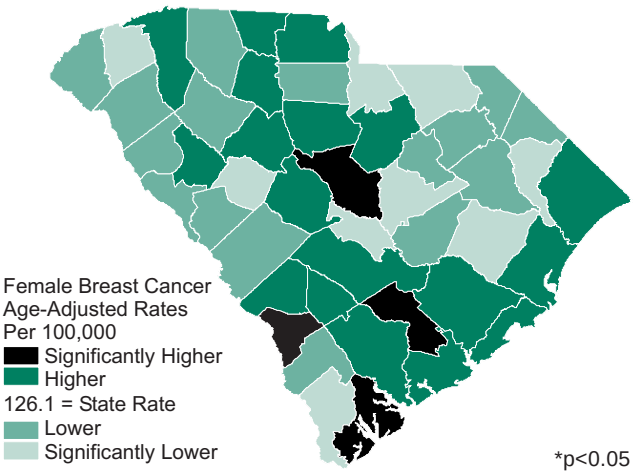
South Carolina currently ranks 19th in the nation in female breast cancer mortality. An estimated 630 women in South Carolina are expected to die of breast cancer in 2005.

Figure 13. Breast Cancer Mortality Rates* by Race, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Figure 12. Female Breast Cancer Incidence Rates by County, South Carolina, 1996-2001



Risk Factors

Age:
Risk increases with age.

Sex:
Breast cancer is 70 times more common in women than men.

Race:
White women are more likely to develop breast cancer than black women, while black women are more likely to die from breast cancer.

Family History:
Having a mother or sister with breast cancer approximately doubles a woman's risk.

Lifestyle:
Obesity and a diet high in polyunsaturated fats.

Consuming two or more alcoholic beverage per day.

Recent use of oral contraceptives or postmenopausal estrogens.

Medical History:
A long menstrual history (menstrual periods that start early and end late in life).

Never having children or having the first child after age 30.

Biopsy-confirmed atypical hyperplasia.

Table 3. Breast Cancer Incidence and Mortality in South Carolina

Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	118	45	165	12,023	3,505	15,696	15,863
SC Incidence Rate (1996-2001)	1.7	2.1	1.8	129.8	111.6	126.1	70.6
SEER Incidence Rate (1996-2001)	1.2	2.0	1.2	140.9	120.3	134.6	73.6
Mortality*							
Number of Deaths (1996-2001)	18	18	36	2,360	1,149	3,519	3,555
SC Mortality Rate (1996-2001)	0.2	0.9	0.4	24.9	37.0	28.0	16.2
US Mortality Rate(1996-2001)	0.3	0.6	0.3	26.8	35.6	27.4	15.6

* Numbers and rates exclude in situ breast cancers. Rates are per 100,000 and age-adjusted to the 2000 US standard population.
Note: Rates are not calculated for fewer than 20 deaths.

Stage of Disease

Detecting breast cancer in the early stages of the disease (i.e. in situ and localized) saves lives. The majority, 66.8%, of South Carolina women diagnosed with breast cancer from 1996-2001 were diagnosed with early stage disease *(Figure 14)*. Following the guidelines for early detection will not prevent breast cancer, but it can help to find breast cancer when the likelihood of successful treatment is the greatest.

Breast Cancer Screening in South Carolina

According to the 2002 Behavioral Risk Factor Surveillance System (BRFSS), 75.9% of females aged 55-64 and 69.2% of females aged 65 and older in South Carolina reported having a mammogram and clinical breast exam within the past three years. *(Figure 15)*.

American Cancer Society Guidelines for the Early Detection of Breast Cancer

***Females ages 40 and older*:** Annual mammogram and an annual clinical breast examination by a health care professional. Breast self-examination is optional.

***Females ages 20-39*:** Clinical breast examination by a health care professional every three years. Breast self-examination is optional. Women at increased risk should talk with their doctors about the benefits/limitations of earlier testing.

Figure 14. Stage at Diagnosis for Female Breast Cancer, South Carolina, 1996-2001

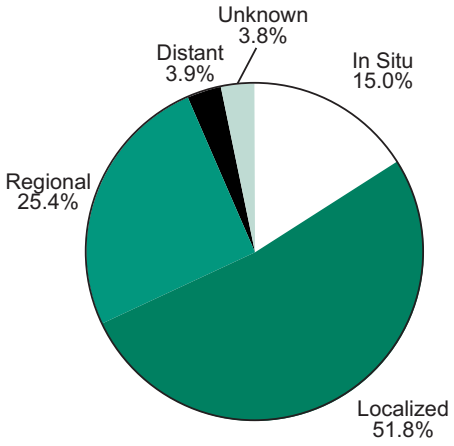
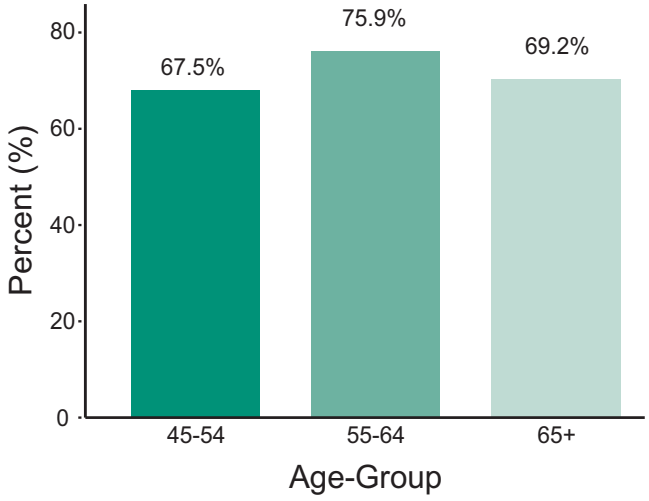


Figure 15. Women Reporting Having Had a Mammogram and Clinical Breast Exam in the Past Two Years, South Carolina, 2002



Source: South Carolina Behavioral Risk Factor Surveillance System

CERVICAL CANCER

Incidence

Cervical cancer is the 9th most commonly diagnosed cancer among white women and the 5th most commonly diagnosed cancer among black women in South Carolina.

From 1996-2001, a total of 1,395 cervical cancer cases were diagnosed in South Carolina (*Table 4)*. Overall, cervical cancer incidence is 1.5 times higher in black women than in white women.

Four counties (Bamberg, Jasper, Marion, Orangeburg) had incidence rates signficantly higher than the state average *(Figure 16)*.

The American Cancer Society estimates that 170 new cases of invasive cervical cancer will occur among South Carolina women in 2005.

Mortality

From 1996-2001, a total of 452 cervical cancer deaths occurred in South Carolina, accounting for 2.0% of all cancer deaths in South Carolina women. Overall, cervical cancer mortality is nearly 2.5 times higher in black women than in white women in South Carolina.

The overall trend in cervical cancer mortality is decreasing mortality rates for both white females and black females in South Carolina *(Figure 17)*.

South Carolina ranks 8th in the nation in cervical cancer mortality.

Figure 16. Cervical Cancer Incidence Rates by County, South Carolina, 1996-2001

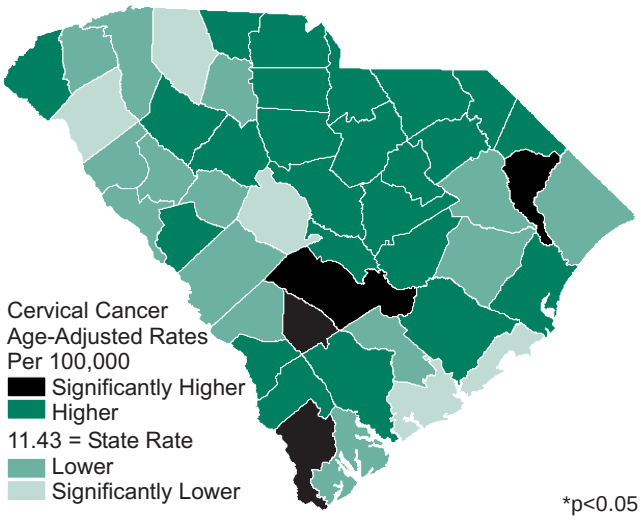
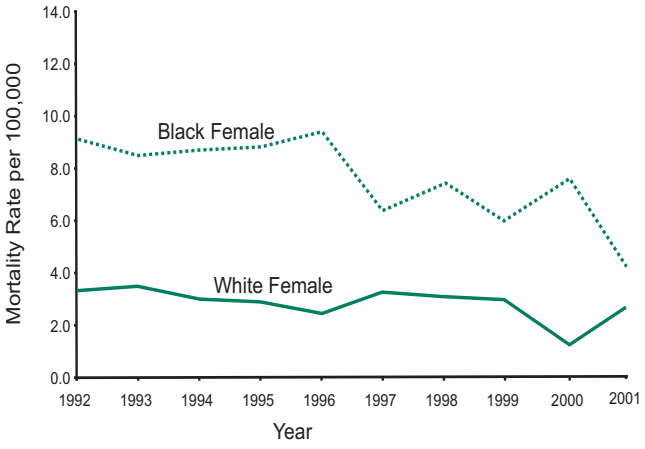


Figure 17. Cervical Cancer Mortality Rates* by Race, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Risk Factors

Age:
A woman's risk of developing cervical cancer increases with age.

Race:
Black women are more likely to develop and die from cervical cancer than white women.

Lifestyle:
First sexual intercourse at an early age.

Multiple sexual partners or partners who have had multiple sexual partners.

Cigarette smoking.

Low socioeconomic status.

Infection:
Human papillomavirus (HPV) infection has been associated with both preinvasive and invasive cervical cancer. HPV is passed from men to women during sexual intercouse.

Table 4. Cervical Cancer Incidence and Mortality in South Carolina

Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	---	---	---	839	515	1,395	1,395
SC Incidence Rate (1996-2001)	---	---	---	9.8	15.8	11.4	11.4
SEER Incidence Rate (1996-2001)	---	---	---	9.1	12.1	9.5	9.5
Mortality*							
Number of Deaths (1996-2001)	---	---	---	232	213	452	452
SC Mortality Rate (1996-2001)	---	---	---	2.6	6.7	3.7	3.7
US Mortality Rate(1996-2001)	---	---	---	2.6	5.7	2.9	2.9

*Numbers and rates exclude in situ cervical cancers. Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Stage of Disease

The majority, 60.0%, of South Carolina women diagnosed with cervical cancer from 1996-2001 were diagnosed with early stage disease (i.e. localized) *(Figure 18)*. The vast majority of invasive cervical cancers can be prevented, and following the guidelines for early detection of cervical cancer can help in the prevention of this cancer.

Cervical Cancer Screening in South Carolina

According to the 2002 Behavioral Risk Factor Surveillance System (BRFSS), 88.3% of women in South Carolina reported having a Pap smear within the past 3 years. Females aged 25-34 had the highest rate of Pap test screening (93.7%), while females aged 18-24 had the lowest rate (83.1%) *(Figure 19)*. Every year between 1996 and 2002, at least 80% of South Carolina women reported having had a Pap smear within the last three years.

American Cancer Society Guidelines for Early Detection of Cervical Cancer

- Screening should begin approximately three years after a women begins having vaginal intercourse, but no later than 21 years of age.
- Screening should be done every year with regular Pap tests or every two years using liquid-based tests. At or after age 30, women having three normal test results in a row may get screened every 2-3 years.

Figure 18. Stage at Diagnosis for Cervical Cancer, South Carolina, 1996-2001

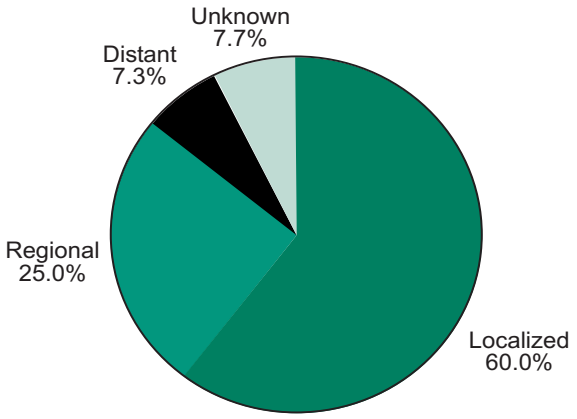
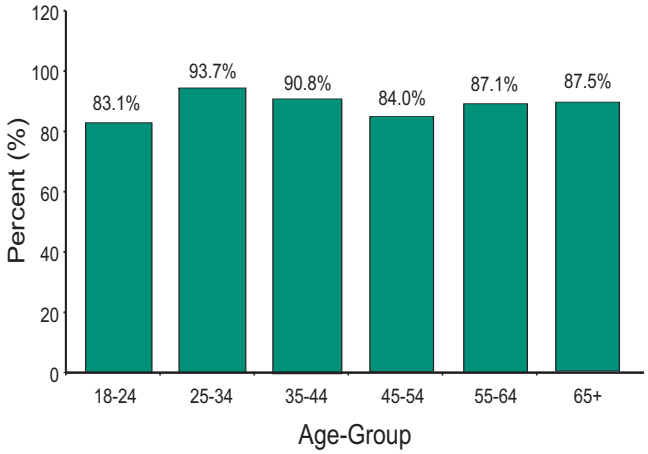


Figure 19. Females Aged 18 and Older Having Had a Pap Smear*, South Carolina, 2002



*Reporting having had a Pap smear within the past three years.
Source: South Carolina Behavioral Risk Factor Surveillance System

COLORECTAL CANCER

Incidence

Colorectal cancer is the fourth most common cancer diagnosed in South Carolina, accounting for nearly 12% of all cancer cases diagnosed. From 1996-2001, a total of 12,226 colorectal cancers were diagnosed in South Carolina, with 51% of the cases occurring in males and 49% in females *(Table 5)*.

Six counties (Berkeley, Charleston, Chester, Dorchester, Kershaw, Lancaster) have incidence rates significantly higher than the state average *(Figure 20)*.

The American Cancer Society estimates that 2,300 new cases of colorectal cancer will occur in South Carolina in 2005.

Mortality

Colorectal cancer is the second leading cause of cancer death in South Carolina, accounting for 10% of all cancer deaths between 1996-2001.

Black males in South Carolina have a higher colorectal cancer mortality rate than any other race-sex group *(Figure 21)*.

South Carolina currently ranks 26th in the nation in colorectal cancer mortality. An estimated 890 South Carolinians are expected to die of colorectal cancer in 2005.

Figure 20. Colorectal Cancer Incidence Rates by County, South Carolina, 1996-2001

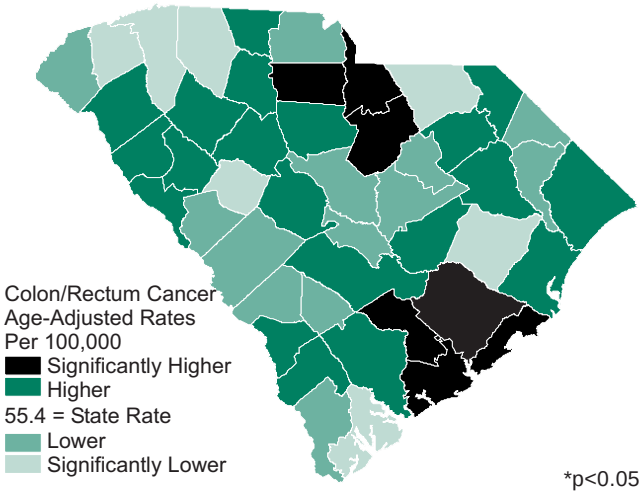
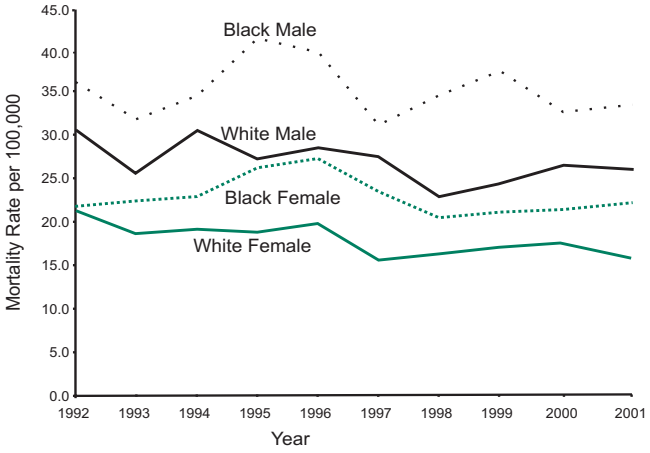


Figure 21. Colorectal Cancer Mortality Rates* by Race and Sex, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Risk Factors

Age:
The risk of developing colorectal cancer increases with age. The majority (90%) of cases occur after age 50.

Family History:
A personal or family history of colorectal cancer or polyps, and inflammatory bowel disease increases risk.

Lifestyle:
A sedentary lifestyle with little physical activity.

A diet high in fat (especially from animal sources) and/or low in fiber.

Inadequate intake of fruits, vegetables, and grains.

Obseity increases risk.

Smokers are 30%-40% more likely to die of colorectal cancer than non-smokers.

Table 5. Colorectal Cancer Incidence and Mortality in South Carolina

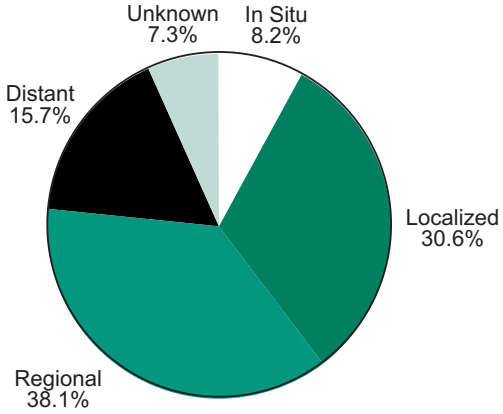
Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	4,764	1,459	6,286	4,309	1,578	5,938	12,226
SC Incidence Rate (1996-2001)	66.4	71.9	67.9	44.8	52.0	46.7	55.4
SEER Incidence Rate (1996-2001)	63.4	72.1	63.5	45.8	56.1	46.3	53.7
Mortality*							
Number of Deaths (1996-2001)	1,717	676	2,396	1,636	689	2,333	4,729
SC Mortality Rate (1996-2001)	25.6	35.3	27.6	16.8	22.7	18.3	22.0
US Mortality Rate(1996-2001)	25.0	34.3	25.5	17.3	24.5	17.8	21.0

*Numbers and rates exclude in situ colorectal cancers. Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Stage of Disease

The early detection and removal of precancerous polpys can greatly reduce the risk of developing or dying of invasive colorectal cancer. Unfortunately, the majority, 53.8%, of colorectal cancer cases in South Carolina are diagnosed in later stage of disease (i.e. regional and distant). Following the appropriate screening guidelines can help to detect colorectal cancer early in its development, when the likelihood of successful treatment is the greatest *(Figure 22)*.

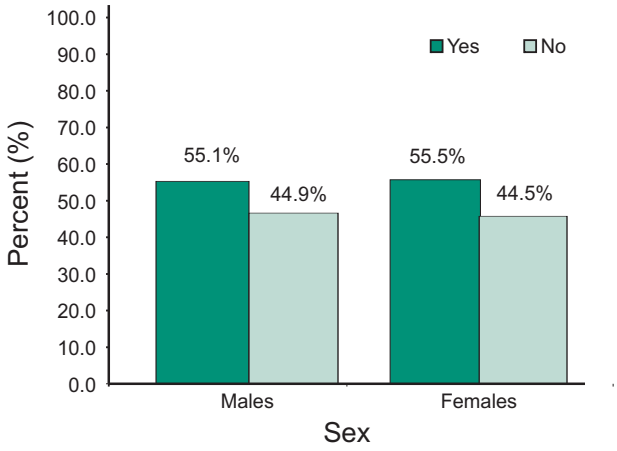
Figure 22. Stage at Diagnosis for Colorectal Cancer, South Carolina, 1996-2001



Colorectal Cancer Screening in South Carolina

According to the 2003 Behavioral Risk Factor Surveillance System (BRFSS), 55.1% of males and 55.5% of females aged 50 and older reported ever having had a sigmoidoscopy or colonoscopy examination. A total of 44.9% of males and 44.5% of females reported never having had one of these exams *(Figure 23)*.

Figure 23. Sigmoidoscopy or Colonoscopy Exam*, Persons Aged 50 and Older, South Carolina, 2003



*Reported ever having had a sigmoidoscopy or colonoscopy exam.
Source: South Carolina Behavioral Risk Factor Surveillance System

American Cancer Society Guidelines for the Early Detection of Colorectal Cancer

Beginning at age 50, men and women at average risk should follow <u>one</u> of the examination schedules below:

1. Fecal Occult Blood Test (FOBT) every year, or
2. Flexible sigmoidoscopy (FSIG) every 5 years, or
3. FOBT every year and flexible sigmoidoscopy every 5 years*, or
4. Double-contrast barium enema every 5 years, or
5. Colonoscopy every 10 years.

**Combined testing is preferred over either annual FOBT, or FSIG every 5 years, alone. People who are at moderate or high risk for colorectal cancer should talk with a doctor about a different testing schedule.*

LEUKEMIA

Incidence

Leukemia is often thought of as a childhood disease. However, leukemia is diagnosed 10 times more often in adults than in children.

From 1996-2001, a total of 2,268 leukemia cases were diagnosed in South Carolina, with 11% of the cases occurring in children (0-19 years old) and 89% in adults (20+ years old) *(Table 6)*.

No counties in South Carolina have incidence rates significantly higher than the state average *(Figure 24)*.

Mortality

Leukemia accounted for 3.5% of all cancer deaths between 1996-2001. Males in South Carolina have a higher leukemia mortality rate than females.

Leukemia mortality rates vary from year to year. However, overall, males have a higher leukemia mortality rates than females in South Carolina *(Figure 25)*.

South Carolina currently ranks 33th in the nation in leukemia mortality. The American Cancer Society estimates that 330 leukemia deaths will occur among South Carolinians in 2005.

Figure 24. Leukemia Incidence Rates by County, South Carolina, 1996-2001

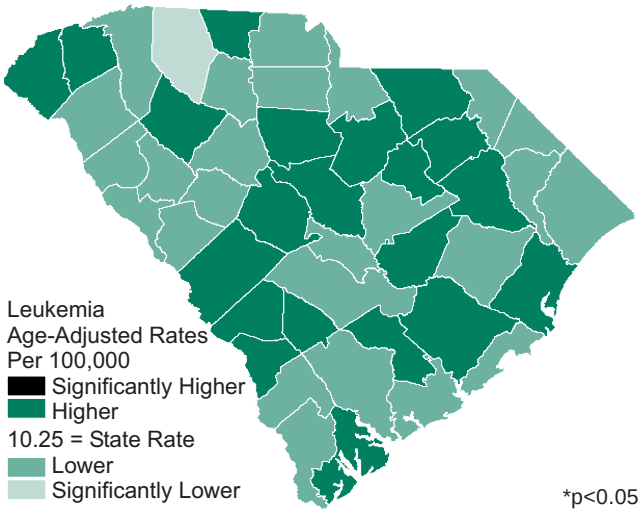
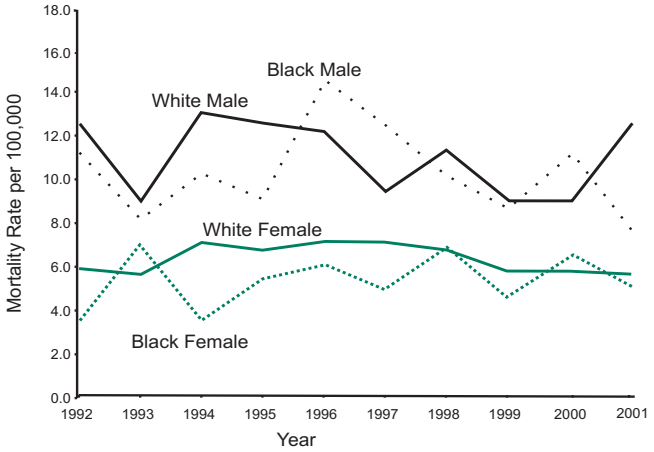


Figure 25. Leukemia Mortality Rates* by Race and Sex, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Risk Factors

Lifestyle:
Smoking.

Radiation Exposure:
High dose radiation exposure increases the risk of chronic myelogenous leukemia (CML), acute myelogenous leukemia (AML), and acute lymphocytic leukemia (ALL).

Previous Cancer Treatment:
Patients with other cancers who are treated with certain chemotheraphy drugs can develop AML.

Workplace Exposures:

Farmers with long-term exposure to herbicides/pesticides have an increased risk of developing chronic lymphocytic leukemia (CLL).

Long-term exposure to high levels of benzene increases the risk of AML in adults.

Genetics:

First-degree relatives of CLL patients have a two-to-fourfold increased risk for CLL. People with certain rare diseases (i.e. Fanconi's anemia) have an increased risk of AML and ALL.

Table 6. Leukemia Incidence and Mortality in South Carolina

Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	968	277	1,262	761	227	1,006	2,268
SC Incidence Rate (1996-2001)	13.6	12.4	13.4	8.2	7.0	8.0	10.3
SEER Incidence Rate (1996-2001)	16.9	12.9	16.0	10.0	8.0	9.4	12.2
Mortality*							
Number of Deaths (1996-2001)	686	217	905	604	176	784	1,689
SC Mortality Rate (1996-2001)	10.5	10.8	10.6	6.3	5.6	6.1	7.8
US Mortality Rate(1996-2001)	10.5	9.2	10.3	6.0	5.5	5.9	7.7

*Rates are per 100,000 and age-adjusted to the 2000 US standard population.

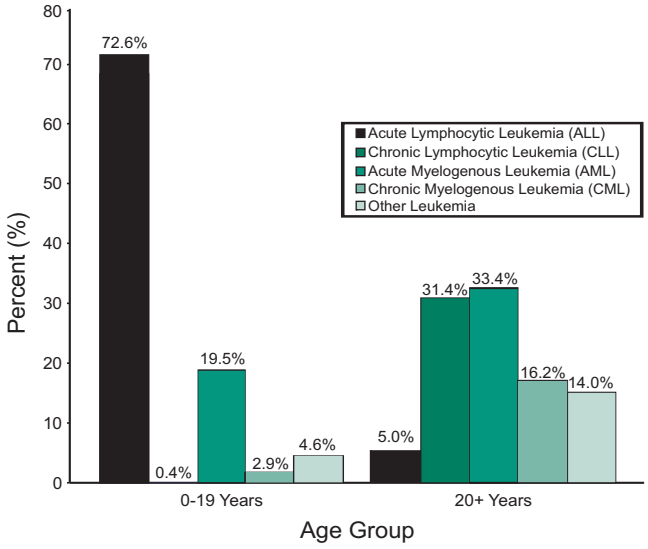
Leukemia Subtypes

Leukemia is divided into two main categories, chronic and acute leukemias. The two main types of chronic leukemia are chronic lymphocytic leukemia (CLL) and chronic myelogenous leukemia (CML). Most chronic leukemias affect adults. The average age of patients with CLL is around 70 years of age. The average age of patients with CML is 40 to 50 years of age.

There are two main types of acute leukemia. Acute myelogenous leukemia (AML) is a disease of older people. The average age of a patient with AML is 65 years old. Acute lymphocytic leukemia (ALL) is more common among children than adults. Most patient with ALL are under 10 years of age.

In South Carolina from 1996-2001, the majortiy (72.6%) of ALL cases occurred in children ages 0-19 years old. Adults in South Carolina were primarily diagnosed with CLL or AML *(Figure 26)*.

Figure 26. Leukemia Subtypes by Age Group, South Carolina, 1996-2001



Early Detection

The symptoms of leukemia often resemble the symptoms of other, less serious conditions. Therefore, leukemia can be difficult to diagnose early. When a physician does suspect leukemia, the diagnosis can be made using blood tests, bone marrow biopsies, and imaging techniques such as X-rays and ultrasounds.

Treatment

Chemotherapy is the most effective method of treating leukemia. Various anticancer drugs are used, either in combinations or as single agents. Antibiotics and transfusions of blood components are also used as supportive treatments. Bone marrow transplantations may be useful in treating certain leukemias, under appropriate conditions.

Signs/Symptoms of Leukemia*

- Fatigue
- Paleness
- Weight loss
- Repeated infections
- Bruising easily
- Nosebleeds or other hemorrhages

**In children, these signs can appear suddenly. Chronic leukemia can progress slowly with few symptoms.*

LUNG CANCER

Incidence

Lung cancer is the second most common cancer diagnosed in South Carolina, accounting for nearly 16% of all cancer cases. The incidence rate of lung cancer is higher for men than for women; however, rates for men are decreasing, while rates for women are increasing.

From 1996 to 2001, a total of 16,856 lung cancers were diagnosed in South Carolina *(Table 7)*. Seven counties (Berkeley, Cherokee, Colleton, Darlington, Horry, Kershaw, Lexington) have incidence rates that are significantly higher than the state average *(Figure 28)*.

The American Cancer Society estimates that 2,880 new cases of lung cancer will occur in South Carolina in 2005.

Mortality

Lung cancer is the leading cause of cancer death in South Carolina, accounting for 29% of all cancer deaths between 1996-2001. Black males in South Carolina have a higher lung cancer mortality rate than any other race-sex group *(Figure 29)*.

South Carolina currently ranks 18th in the nation in lung cancer mortality. An estimated 2,730 South Carolinians are expected to die of lung cancer in 2005.

Figure 28. Lung Cancer Incidence Rates by County, South Carolina, 1996-2001

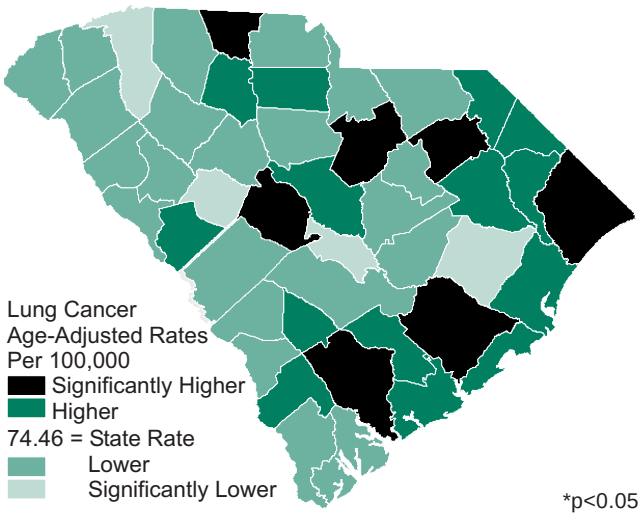
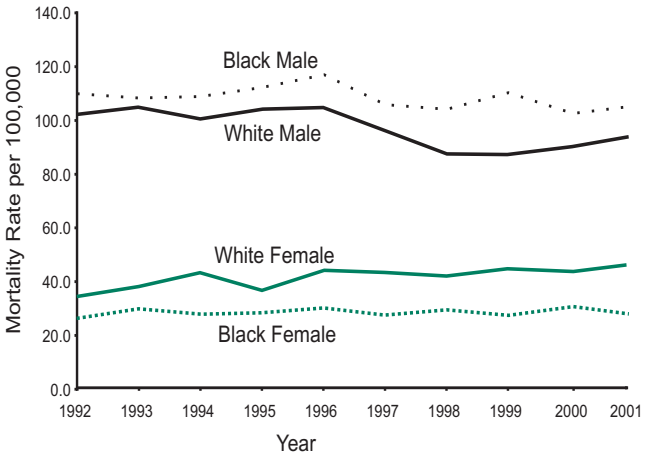


Figure 29. Lung Cancer Mortality Rates* by Race and Sex, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Risk Factors

Age:
Lung cancer incidence increases with age.

Sex:
The incidence rate of lung cancer is higher for men than women. However, the rates for men are decreasing while the rates for women are increasing.

Lifestyle:
Tobacco use (accounts for over 85% of all lung cancer cases).

Exposure to environmental (second-hand) tobacco smoke. A nonsmoker who is married to a smoker has a 30% greater risk of developing lung cancer than the spouse of a nonsmoker.

Prolonged exposure to air pollution.

Occupation:
Exposure to certain industrial substances, such as arsenic; some organic chemicals; asbestos and radon, particularly for those persons who smoke.

Radiation exposure from occupational, medical, and environmental sources.

Table 7. Lung Cancer Incidence and Mortality in South Carolina

Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	8,158	2352	10,561	5,157	1,090	6,293	16,856
SC Incidence Rate (1996-2001)	108.1	114.4	109.7	53.2	35.9	49.2	74.4
SEER Incidence Rate (1996-2001)	78.7	119.0	79.9	51.5	54.4	49.3	62.1
Mortality*							
Number of Deaths (1996-2001)	6,782	2,176	8,983	4,160	879	5,053	14,036
SC Mortality Rate (1996-2001)	92.8	107.8	95.9	42.6	29.0	39.4	62.6
US Mortality Rate(1996-2001)	77.3	105.5	78.6	41.5	39.8	40.7	56.5

*Numbers and rates exclude in situ lung cancers. Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Stage of Disease

Early detection of lung cancer is difficult because there is no screening test for lung cancer and the symptoms often do not appear until the cancer is advanced. In South Carolina from 1996-2001, the majority (67.6%) of lung cancer was diagnosed in later stage (i.e. regional and distant) of disease *(Figure 30)*.

Smoking Prevalence in South Carolina

According to 2003 data from the Behavioral Risk Surveillance System (BRFSS), males in South Carolina are more likely to smoke than females, 28.5% and 22.7% respectively. The overall prevalence of smoking has decreased among South Carolinians in recent years *(Figure 31)*.

Prevention

About 87% of lung cancers are thought to result from smoking or passive exposure to tobacco smoke. Therefore, the best strategy for preventing lung cancer is not to begin smoking and to avoid exposure to environmental or second hand smoke. In those who stop smoking, damaged lung tissue often returns to normal.

Also, people who work with potentially cancer-causing chemicals (such as uranium ores, arsenic, vinyl chloride, nickel chromates, coal products, mustard gas, chloromethyl ethers, and asbestos) should take appropriate protective measures to avoid harmful exposure. Asbestos workers who also smoke have a 50 to 90 times greater lung cancer risk than that of people in general.

Figure 30. Stage at Diagnosis for Lung Cancer, South Carolina, 1996-2001

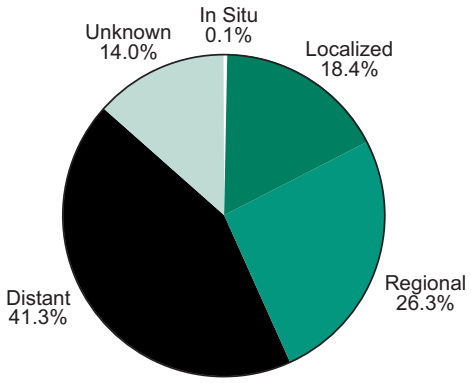
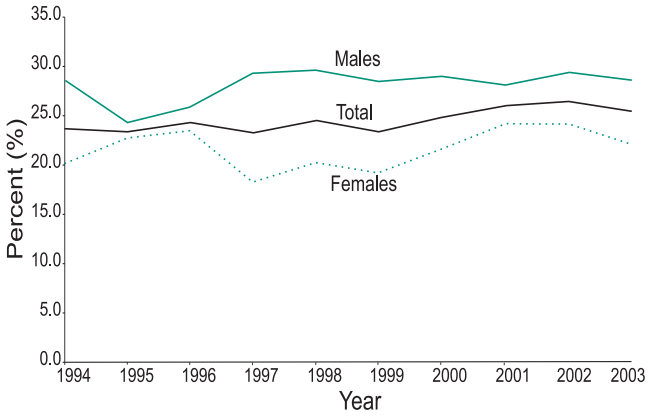


Figure 31. Smoking Prevalence* by Gender, Adults 18 and Older, South Carolina, 1994-2003



*Reported having smoked at least 100 cigarettes in their lifetime and smoking every day or some days.
Source: South Carolina Behavioral Risk Factor Surveillance System

NON-HODGKIN LYMPHOMA (NHL)

Incidence

Non-Hodgkin Lymphoma (NHL) accounted for 3.4% of all cancer cases in South Carolina. The incidence rate of NHL is higher for men than for women.

From 1996 to 2001, a total of 3,682 NHL cases were diagnosed in South Carolina *(Table 8)*. Two counties (Dorchester and Lexington) have incidence rates that are significantly higher than the state average *(Figure 32)*.

The American Cancer Society estimates that 940 new cases of NHL will occur in South Carolina in 2005.

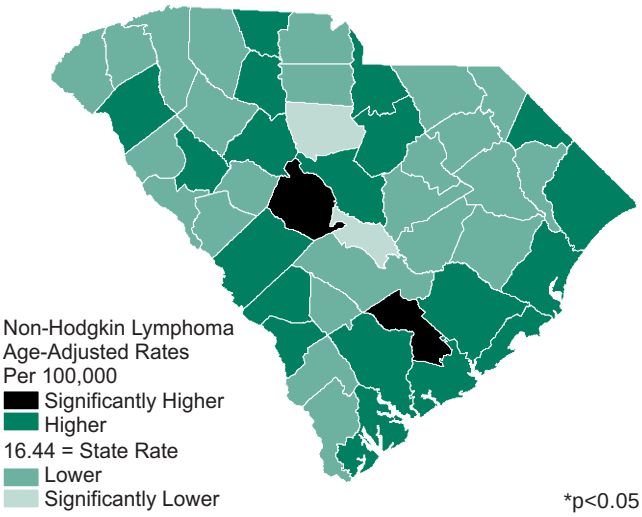
Mortality

NHL accounted for 3.6% of all cancer deaths between 1996-2001. Males in South Carolina have a higher NHL mortality rate than females.

NHL mortality rates for South Carolina vary from year to year. However, in general, white males have higher NHL mortality rates than any other race-sex group *(Figure 33)*.

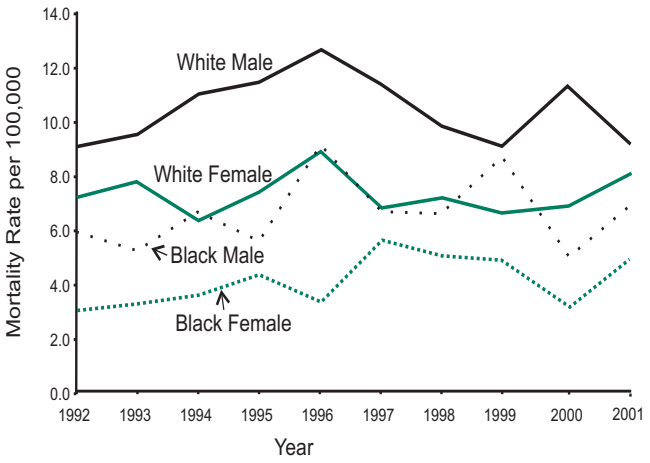
South Carolina currently ranks 44th in the nation in NHL mortality. An estimated 320 South Carolinians are expected to die of NHL in 2005.

Figure 32. Non-Hodgkin Lymphoma Incidence Rates by County, South Carolina, 1996-2001



*p<0.05

Figure 33. Non-Hodgkin Lymphoma Mortality Rates* by Race and Sex, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Risk Factors

The majority of risk factors remain unknown for NHL. However, scientists have found a few risk factors that can increase a person's chances of developing NHL. These risk factors are:

Age:
Risk increases with age.

Radiation Exposure:
Patients treated with radiation therapy for some other cancers have a slight risk of developing non-Hodgkin lymphoma later in life.

Chemicals:
Some chemotherapy drugs used to treat other cancers can increase the risk of developing non-Hodgkin lymphoma 5-10 years later.

Immune Deficiency:
People with a lowered immune system, such as those with AIDS or who are taking immune-suppressing drugs because of organ transplant, have a higher risk of developing NHL.

Table 8. Non-Hodgkin Lymphoma Incidence and Mortality in South Carolina

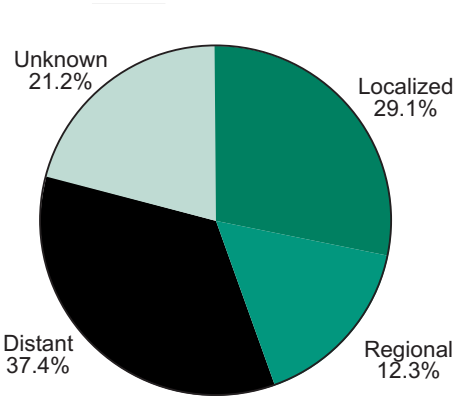
Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	1,572	316	1,914	1,426	322	1,767	3,682
SC Incidence Rate (1996-2001)	21.3	13.6	19.9	15.0	10.2	13.9	16.4
SEER Incidence Rate (1996-2001)	24.6	18.4	23.5	16.5	11.6	15.7	19.1
Mortality*							
Number of Deaths (1996-2001)	704	148	854	702	143	850	1,704
SC Mortality Rate (1996-2001)	10.5	7.1	9.8	7.2	4.6	6.6	7.9
US Mortality Rate(1996-2001)	10.9	7.6	10.5	7.2	4.6	6.9	8.4

*Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Stage of Disease

Detecting NHL in the early stage of disease increases the chances of survival. However, in South Carolina from 1996-2001, the majority (49.7%) of NHL cases were diagnosed in later stage of disease *(Figure 34)*.

Figure 34. Stage at Diagnosis for Non-Hodgkin Lymphoma, South Carolina, 1996-2001



Early Detection

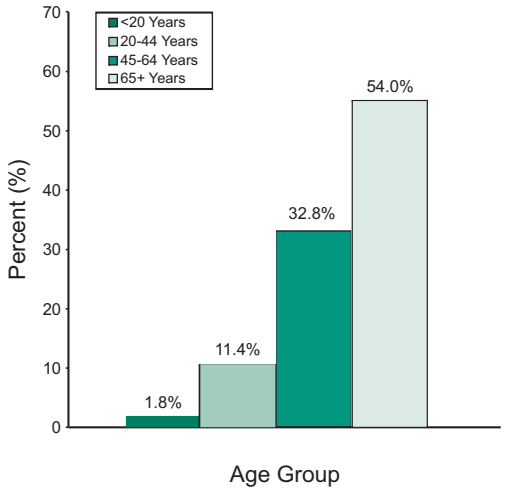
At this time, there are no special tests suggested for the early detection of NHL. Therefore, it is important to pay attention to the signs and symptoms of this disease so that it can be caught early.

Signs/Symptoms of NHL

- Enlarged lymph nodes
- Itching
- Fever*
- Night sweats
- Fatigue
- Weight loss

**Intermittent fever can last for several days or weeks.*

Figure 35. Non-Hodgkin Lymphoma by Age Group, South Carolina, 1996-2001



MELANOMA OF THE SKIN

Incidence

Melanoma of the skin (hereinafter referred to as melanoma) is the 7th most common cancer diagnosed in South Carolina, accounting for around 3% of cancer cases. In South Carolina, melanoma is more common among whites than blacks and males than females.

From 1996-2001, a total of 3,630 melanoma cases were diagnosed in South Carolina *(Table 9)*. There are six counties (Charleston, Georgetown, Greenville, Horry, Lexington, Pickens) where incidence rates are significantly higher than the state average *(Figure 36)*.

The American Cancer Society estimates that 770 new cases of invasive melanoma are expected to be diagnosed in South Carolina in 2005.

Mortality

Between 1996 and 2001, a total of 544 melanoma deaths occurred in South Carolina, accounting for around 1% of all cancer deaths in South Carolina.

Melanoma mortality rates vary from year to year; however, whites males have higher melanoma mortality rates than all other race-sex groups in South Carolina *(Figure 37)*.

South Carolina currently ranks 42nd in the nation in melanoma mortality.

Figure 36. Melanoma Incidence Rates by County, South Carolina, 1996-2001

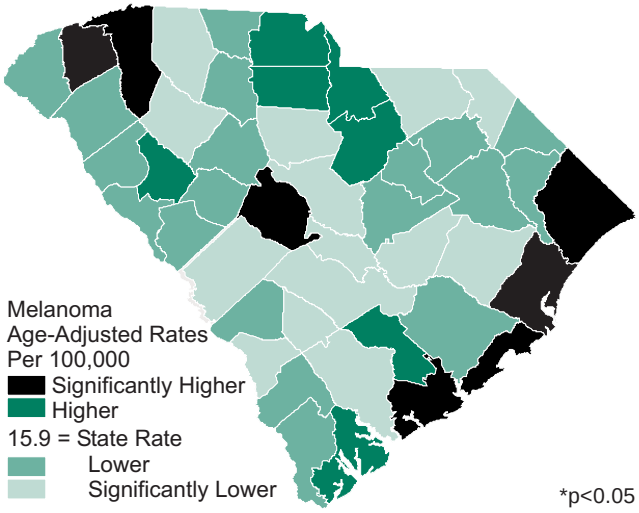
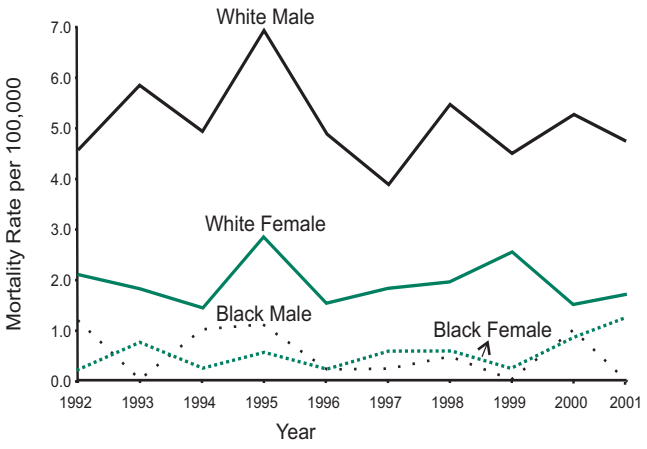


Figure 37. Melanoma Mortality by Race and Sex, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Risk Factors

Age:
The risk of melanoma increases with age.

Sex:
Melanoma occurs more frequently in males than females.

Race:
The risk of melanoma is 20 times higher for whites than for blacks, due to fair complexion.

Family History:
A family history of melanoma increases risk.

Other:
Excessive exposure to all sources of ultraviolet light, especially sunlight.

Multiple and/or atypical moles.

Weakened immune system.

People with Xeroderma Pigmentosum (XP) have an increased risk.

Table 9. Melanoma Incidence and Mortality in South Carolina

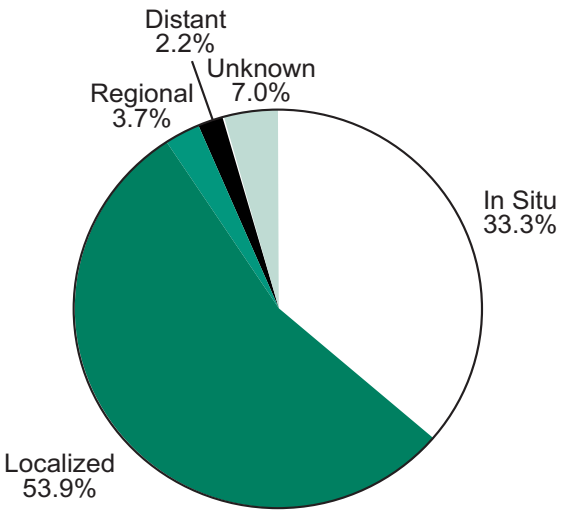
Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	1,958	25	2,051	1,469	41	1,579	3,630
SC Incidence Rate (1996-2001)	25.4	1.2	20.4	16.6	1.3	12.8	15.9
SEER Incidence Rate (1996-2001)	25.2	1.5	21.3	16.6	0.8	13.7	16.9
Mortality*							
Number of Deaths (1996-2001)	345	10	352	172	19	192	544
SC Mortality Rate (1996-2001)	4.8	---	3.8	1.9	0.6	1.5	2.4
US Mortality Rate(1996-2001)	4.4	0.5	3.9	2.0	0.5	1.8	2.7

*Numbers and rates exclude in situ melanomas. Rates are per 100,000 and age-adjusted to the 2000 US standard population.
Note: Counts between 5-9 are rounded to 10. Rates are not calculated for fewer than 15 deaths.

Stage of Disease

The majority, 87.2%, of South Carolinians diagnosed with melanoma from 1996-2001 were diagnosed in early stage (i.e. in situ or localized) of disease *(Figure 38)*. It is important to follow the guidelines for early detection of skin cancer. The earlier skin cancer is diagnosed, the greater the chance for successful treatment.

Figure 38. Stage at Diagnosis for Melanoma, South Carolina, 1996-2001



Prevention/Detection

Limit or avoid exposure to the sun, during the mid-day hours (10 a.m.-4 p.m.), and other sources of ultra-violet light. Throughout the year wear sunscreen with a solar protection factor (SPF) of 15 or higher, especially on exposed areas of the skin. When outdoors cover as much skin as possible and wear sunglasses and a hat. Limitation of childhood sun exposure is an increasingly important prevention strategy.

It is important to recognize changes in skin growths. To distinguish a melanoma from a normal mole, use the **ABCD Rule**:

A-Asymmetry: One half of the mole does not match the other half.

B-Border: The edges of the mole are irregular, ragged or notched.

C-Color: The color over the mole is not the same. There may be differing shades of tan, brown, or black, and sometimes patches of red, blue, or white.

D-Diameter: The mole is wider than 6 millimeters (about ¼ inch) or is growing larger.

American Cancer Society Guidelines for the Early Detection of Melanoma

***Ages 40 and older*:** A skin examination by a health care professional every year and monthly self-examination.

***Ages 20-39*:** A skin examination by a health care professional every three years and monthly self-examination.

ORAL/PHARYNX CANCER

Incidence

Oral/Pharyngeal cancer is the 9th most common cancer occurring in South Carolina. From 1996-2001 in South Carolina, a total of 2,897 oral/pharyngeal cancers were diagnosed. The majority (70%) occurred in males, with black males in South Carolina having the highest incidence of oral/pharyngeal cancer of any other race-sex group *(Table 10)*.

There are three counties (Charleston, Georgetown, Richland) that have oral/pharynx cancer incidence rates that are significantly higher than the state average *(Figure 39)*.

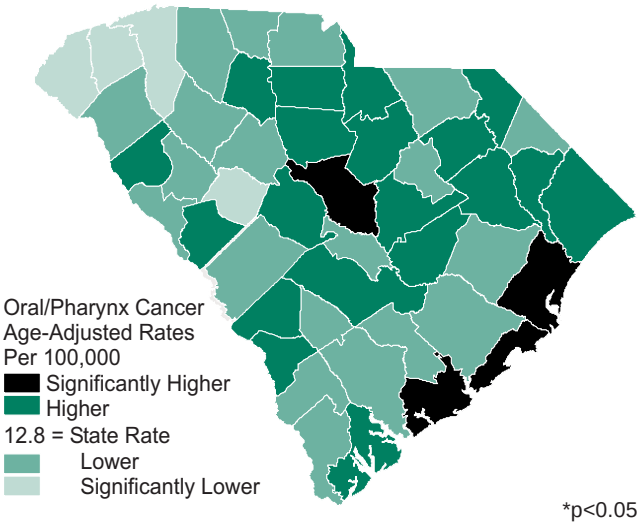
Mortality

From 1996-2001, a total of 883 oral/pharyngeal cancer deaths occurred in South Carolina. Overall, oral/pharyngeal cancer mortality is nearly three times higher in men than women.

Oral/pharynx cancer mortality rates vary from year to year; however, black males have the highest oral/pharynx cancer mortality rate of any race-sex group *(Figure 40)*.

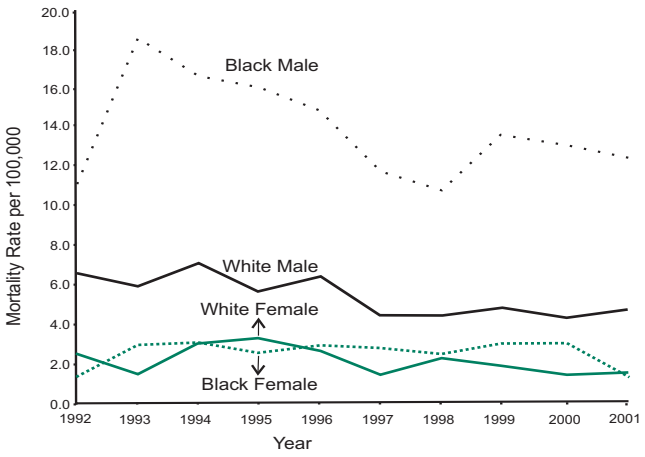
South Carolina currently ranks 3rd in the nation in oral/pharyngeal cancer mortality.

Figure 39. Oral/Pharynx Cancer Incidence Rates by County, South Carolina,1996-2001



*p<0.05

Figure 40. Oral/Pharynx Cancer Mortality Rates* by Race and Sex, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Risk Factors

Age:
Risk increases with age, especially after age 40.

Sex:
Oral/pharynx cancer is twice as common in men as in women.

Tobacco use:
About 90% of people with oral/pharynx cancer use tobacco, and the risk of developing these cancers increases with the amount smoked or chewed and duration of the habit.

Smokers are six times more likely than nonsmokers to develop these cancers.

Alcohol use:
Alcohol consumption strongly increases a person's risk of developing oral/pharynx cancer. These cancers are about six times more common in drinkers than in nondrinkers. People who smoke and also drink alcohol have a much higher risk of cancer than those using only alcohol or tobacco alone.

Ultraviolet light:
More than 30% of patients with cancers of the

Table 10. Oral/Pharynx Cancer Incidence and Mortality, South Carolina, 1996-2001

Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	1,412	602	2,030	656	200	867	2,897
SC Incidence Rate (1996-2001)	18.4	25.9	20.1	6.9	6.3	6.9	12.8
SEER Incidence Rate (1996-2001)	15.9	20.1	16.0	6.5	6.4	6.5	10.8
Mortality*							
Number of Deaths (1996-2001)	335	284	623	178	81	260	883
SC Mortality Rate (1996-2001)	4.6	12.6	6.4	1.8	2.6	2.1	4.0
US Mortality Rate(1996-2001)	4.0	7.7	4.3	1.6	2.0	1.7	2.8

*Numbers and rates exclude in situ oral/pharynx cancers. Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Risk Factors (cont.)

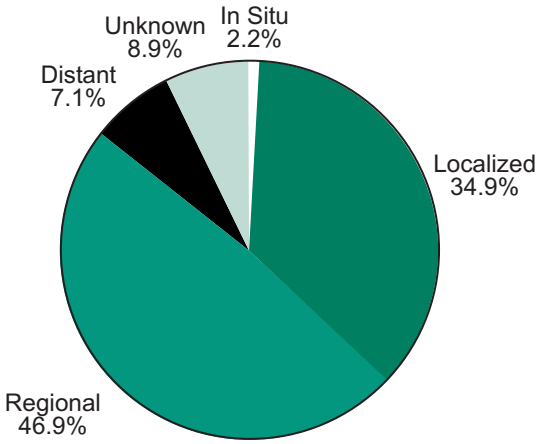
lip have outdoor occupations associated with prolonged exposure to sunlight.

Vitamin deficiency:
Vitamin A deficiency is associated with an increased risk.

Plummer-Vinson syndrome:
A rare combination of iron deficiency with abnormalities of the tongue, fingernails, esophagus, and red blood cells. However, this syndrome is very rare and is responsible for only a very small number of oral cancers.

Human Papillomavirus (HPV):
HPV may be a factor contributing to the development of oral/pharynx cancers in 20% of people.

Figure 41. Stage at Diagnosis for Oral/Pharynx Cancer, South Carolina, 1996-2001



Early Detection

In South Carolina, the majority (54.0%) of oral/ pharynx cancers were diagnosed in late stage (i.e. regional or distant) disease. Another 37.1% of oral/pharynx cancers were diagnosed in early stage (i.e. in situ and localized) disease, while 8.9% were unstaged *(Figure 41)*.

Some oral/pharynx cancers may not cause symptoms until after reaching an advanced stage of disease. However, many cancers of the oral cavity and pharynx can be found early, during routine screening examinations by a doctor or dentist, or by self-examination. Finding these cancers early helps to increase the likelihood of successful treatment and survival.

American Cancer Society Guidelines for the Early Detection of Oral/Pharynx Cancer

Regular dental checkups that include an examination of the entire mouth are important in the early detection of oral/pharynx cancers and precancerous conditions. The American Cancer Society also recommends that primary care doctors examine the mounth and throat as part of a routine cancer-related checkup.

OVARIAN CANCER

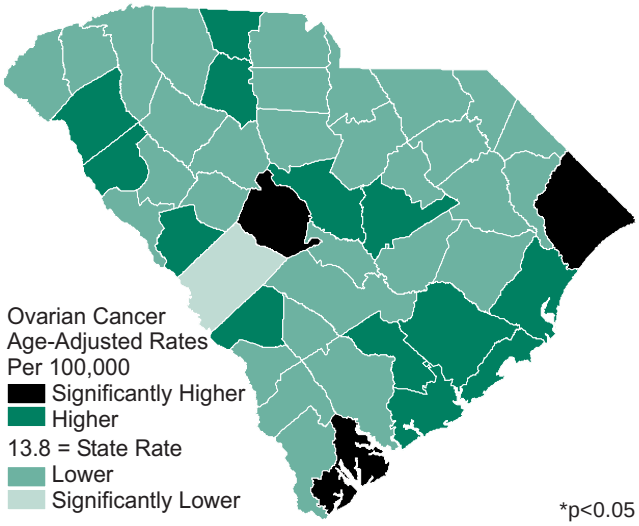
Incidence

Ovarian cancer is the 6th most common cancer diagnosed among women in South Carolina, accounting for over 3% of all female cancer cases.

From 1996-2001, a total of 1,732 ovarian cancers were diagnosed in South Carolina, with the majority (80%) of cases occurring among white females *(Table 11)*.

There are three counties (Beaufort, Horry, Lexington) that have incidence rates significantly higher than the state average *(Figure 42)*.

Figure 42. Ovarian Cancer Incidence Rates by County, South Carolina, 1996-2001



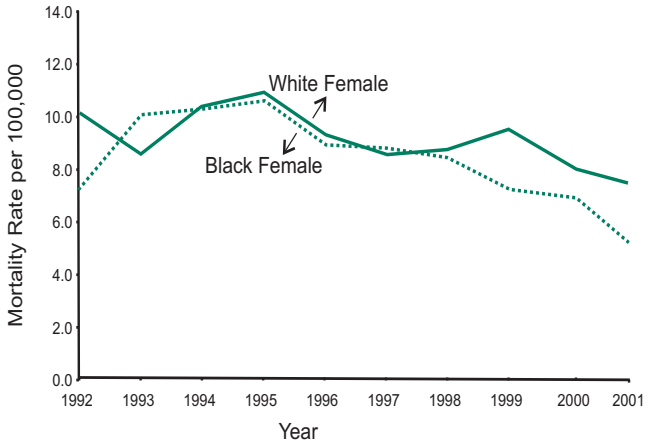
Mortality

Ovarian cancer is the 7th leading cause of cancer death in South Carolina females, accounting for 5% of all cancer deaths in females between 1996-2001. Ovarian cancer causes more deaths than any other cancer of the female reproductive system.

Over the last few years, ovarian cancer mortality rates have shown an overall decline among both white and black females in South Carolina *(Figure 43)*.

South Carolina currently ranks 48th in the nation in ovarian cancer mortality. The American Cancer Society estimates that 190 ovarian cancer deaths will occur in South Carolina in 2005.

Figure 43. Ovarian Cancer Mortality Rates* by Race, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Risk Factors

Age:
Risk increases with age, especially after menopause.

Reproductive History:
Women who started menstruating at an early age (before age 12), had no children or had their first child after age 30, and/or experienced menopause after age 50, may have an increased risk of ovarian cancer.

Fertility Drugs:
In some studies, researchers have found that prolonged use of the fertility drug clomiphene citrate, especially without achieving pregnancy, may increase a woman's risk for developing ovarian tumors.

Family History:
Having a mother, sister, or daughter who has, or has had, ovarian cancer increases risk, especially if they developed ovarian cancer at a young age.

Breast Cancer:
Women who have had breast cancer also have an increased risk of developing ovarian cancer.

Table 11. Ovarian Cancer Incidence and Mortality in South Carolina

Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	---	---	---	1,381	330	1,732	1,732
SC Incidence Rate (1996-2001)	---	---	---	14.8	10.4	13.8	13.8
SEER Incidence Rate (1996-2001)	---	---	---	14.9	9.9	13.9	13.9
Mortality*							
Number of Deaths (1996-2001)	---	---	---	825	224	1,054	1,054
SC Mortality Rate (1996-2001)	---	---	---	8.5	7.4	8.3	8.3
US Mortality Rate(1996-2001)	---	---	---	9.2	7.4	8.9	8.9

* Numbers and rates exclude in situ ovarian cancers. Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Stage of Disease

Detecting ovarian cancer in the early stages of the disease (i.e. in situ and localized) increases the chances of survival. However, only 22.0% of ovarian cancer cases in South Carolina women were diagnosed in early stage. *(Figure 44)*. The majority of cases, 67.8%, were diagnosed with later stage disease.

The same pattern emerges when looking at ovarian cancer by race. Both white and black women are more often diagnosed in later stage of disease. From 1996-2001, 22.2% of whites and 21.8% of blacks were diagnosed in early stage, while 68.5% of whites and 64.4% of blacks were diagnosed with late stage disease *(Figure 45)*.

Knowing the signs and symptoms of ovarian cancer is important in improving the odds of early diagnosis and successful treatment.

Signs/Symptoms of Ovarian Cancer

- Enlargement of the abdomen
- Unusual vaginal bleeding
- Pelvic pressure
- Back or leg pain
- Digestive problems such as gas, bloating, indigestion, or long-term stomach pain

Figure 44. Stage at Diagnosis for Ovarian Cancer, South Carolina, 1996-2001

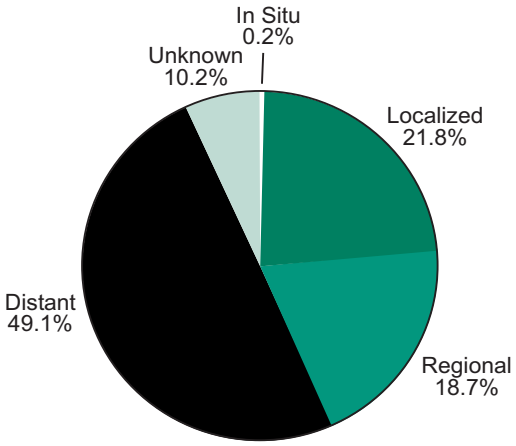
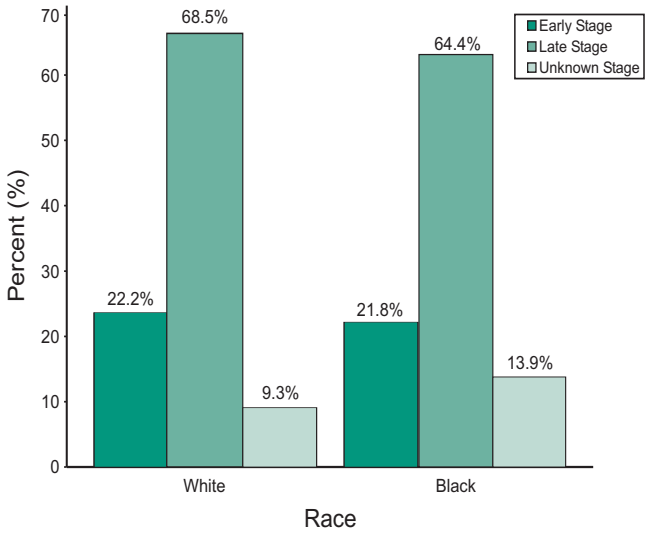


Figure 45. Stage at Diagnosis for Ovarian Cancer by Race, South Carolina, 1996-2001



PANCREATIC CANCER

Incidence

Pancreatic cancer is the 12th most common cancer diagnosed among South Carolinians, accounting for 2% of all cancer cases.

From 1996-2001, a total of 2,428 pancreatic cancers were diagnosed in South Carolina, with 48% of cases occurring in males and 52% of cases occurring in females *(Table 12)*.

There are four counties (Charleston, Orangeburg, Richland, Sumter) that have pancreatic cancer incidence rates that are significantly higher than the state average *(Figure 46)*.

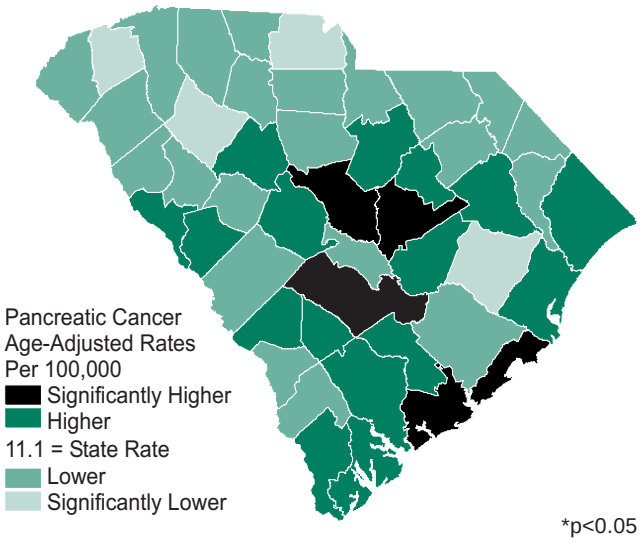
Mortality

Pancreatic cancer is the 6th leading cause of cancer death in South Carolinians, accounting for over 5% of all cancer deaths between 1996-2001.

In general, black males and females in South Carolina have higher pancreatic cancer mortality rates than white males and females. Black males have the highest pancreatic cancer mortality rate of any race-sex group in South Carolina *(Figure 47)*.

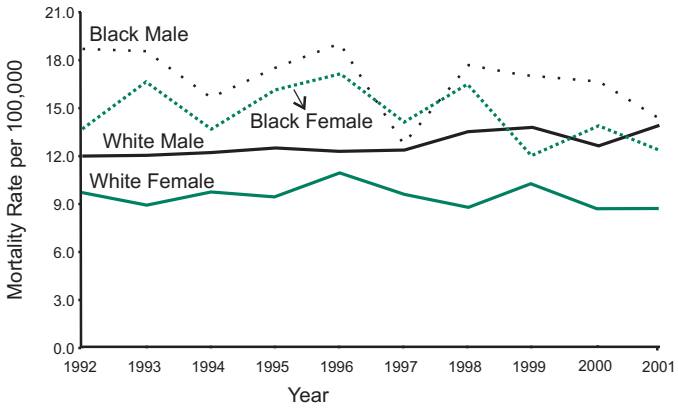
South Carolina currently ranks 4th in the nation in pancreatic cancer mortality. The American Cancer Society estimates that 510 South Carolinians will die of pancreatic cancer in 2005.

Figure 46. Pancreatic Cancer Incidence Rates by County, South Carolina, 1996-2001



*p<0.05

Figure 47. Pancreatic Cancer Mortality Rates* by Race and Sex, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Risk Factors

Age:
Risk increases with age.

Sex:
Men are diagnosed more often with pancreatic cancer than women.

Race:
Blacks are more likely to develop this cancer than whites.

Lifestyle:
Smoking. Incidence rates are more than twice as high for smokers as for nonsmokers.

Obesity.

Diets high in meats and fat.

Other Conditions:
Pancreatic cancer is more common among people with diabetes, cirrhosis, and chronic pancreatitis.

Table 12. Pancreatic Cancer Incidence and Mortality in South Carolina

Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	858	303	1,165	850	408	1,263	2,428
SC Incidence Rate (1996-2001)	12.0	15.0	12.7	8.7	13.5	9.9	11.1
SEER Incidence Rate (1996-2001)	12.4	17.4	12.6	9.5	14.1	9.8	11.0
Mortality*							
Number of Deaths (1996-2001)	916	321	1,242	907	430	1,343	2,585
SC Mortality Rate (1996-2001)	13.0	16.2	13.7	9.3	14.3	10.5	11.9
US Mortality Rate(1996-2001)	12.0	16.1	12.2	8.9	12.8	9.2	10.5

* Numbers and rates exclude in situ pancreatic cancers. Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Stage of Disease

Early detection of pancreatic cancer is difficult because there are currently no blood tests or screening tests that can accurately detect early cancers of the pancreas. Cancer of the pancreas usually spreads without early symptoms. For these reasons, the majority of pancreatic cancers are diagnosed in late stage of disease.

In South Carolina from 1996-2001, only 9.8% of pancreatic cancer cases were diagnosed in early stage. *(Figure 48).* The majority of cases, 70.5%, were diagnosed in late stage of disease.

The same pattern emerges when looking at pancreatic cancer by race. Both whites and blacks are more often diagnosed in later stage of disease. From 1996-2001, 10.1% of whites and 9.0% of blacks were diagnosed in early stage. A total of 70.4% of whites and 70.7% of blacks were diagnosed with late stage disease *(Figure 49).*

Figure 48. Stage at Diagnosis for Pancreatic Cancer, South Carolina, 1996-2001

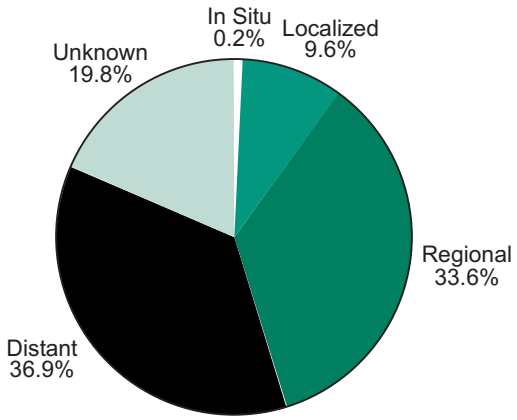
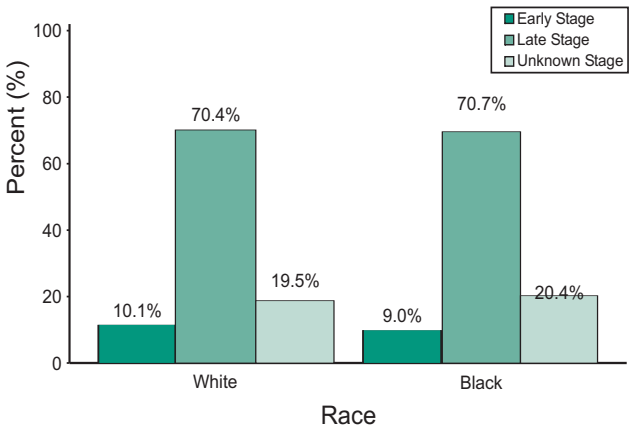


Figure 49. Stage at Diagnosis for Pancreatic Cancer by Race, South Carolina, 1996-2001



Signs/Symptoms of Pancreatic Cancer

- Jaundice
- Abdominal pain
- Weight loss
- Digestive problems

PROSTATE CANCER

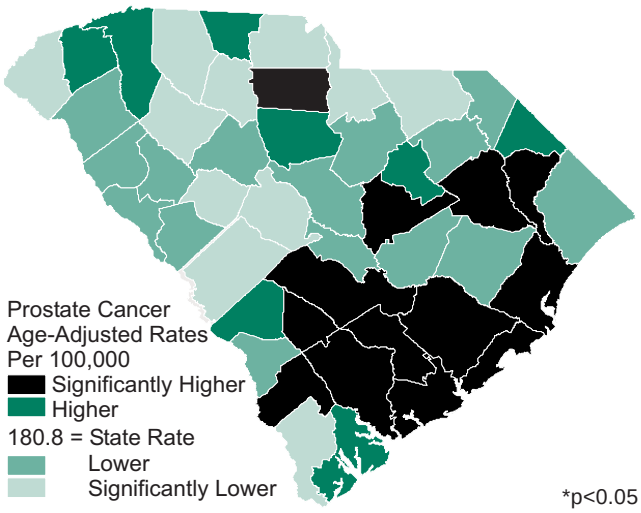
Incidence

Prostate cancer is the most commonly diagnosed cancer among men in South Carolina, regardless of race, accounting for 30% of all male cancer cases. From 1996-2001, a total of 17,338 prostate cancer cases were diagnosed in South Carolina, with the majority, 67%, occurring in white males *(Table 13)*. However, the prostate cancer incidence rate is almost twice as high in black males as it is for white males in South Carolina.

There are many counties in the eastern and southern part of the state where incidence rates are significantly higher than the state average *(Figure 50)*.

The American Cancer Society estimates that 4,210 new cases of prostate cancer will occur in South Carolina in 2005.

Figure 50. Prostate Cancer Incidence Rates by County, South Carolina, 1996-2001

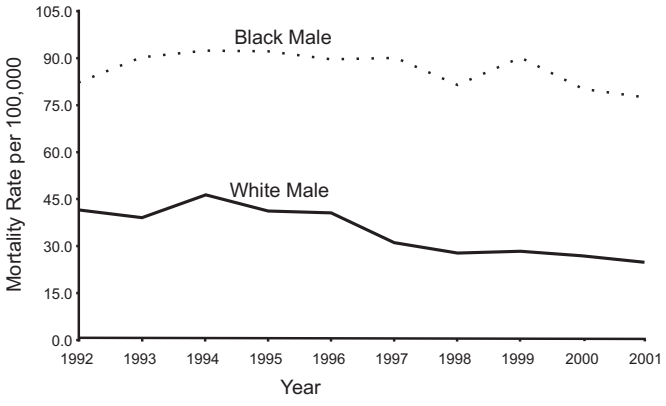


Mortality

Prostate cancer is the second leading cause of cancer death among South Carolina men, following lung cancer deaths. Prostate cancer accounted for 12% of all cancer deaths in males between 1996-2001. Prostate cancer mortality is nearly three times higher in black males than in white males in South Carolina *(Figure 51)*.

South Carolina has one of the highest prostate cancer mortality rates in the nation, currently ranking 3rd in the nation in prostate cancer mortality. An estimated 550 men in South Carolina are expected to die of prostate cancer in 2005.

Figure 51. Prostate Cancer Mortality Rates* by Race, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Risk Factors

Age:
Risk increases with age; over 90% of all prostate cancers are diagnosed in men over age 55.

Race:
Black men have an increased risk. Prostate cancer occurs 70% more often in black men than in white men.

Family History:
A family history increases a man's risk of getting prostate cancer.

Genetic predisposition may be responsible for 5-10% of prostate cancers.

Lifestyle:
A diet high in fat and low in fruits, vegetables and grains increases risk.

Table 13. Prostate Cancer Incidence and Mortality in South Carolina

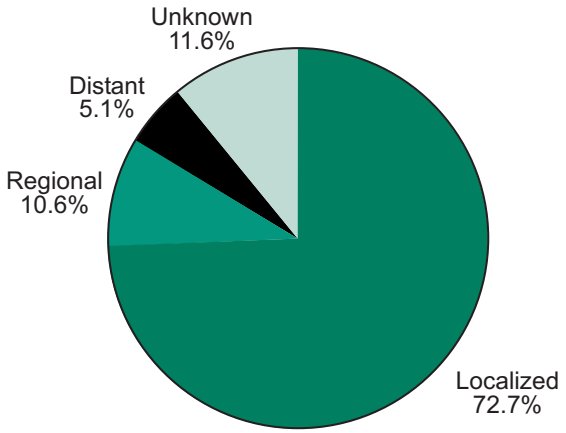
Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	11,578	5,385	17,338	---	---	---	17,338
SC Incidence Rate (1996-2001)	152.4	272.9	180.8	---	---	---	180.8
SEER Incidence Rate (1996-2001)	166.3	271.0	171.2	---	---	---	171.2
Mortality*							
Number of Deaths (1996-2001)	1,702	1,359	3,067	---	---	---	3,067
SC Mortality Rate (1996-2001)	30.5	86.4	42.2	---	---	---	42.2
US Mortality Rate(1996-2001)	29.5	71.7	32.2	---	---	---	32.2

*Numbers and rates exclude in situ prostate cancers. Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Stage of Disease

Unlike many other cancers, prostate cancer often grows very slowly. Therefore, the majority of prostate cancers are diagnosed in early stage of the disease. In South Carolina from 1996-2001, 72.7% of prostate cancers were diagnosed in early stage (i.e. localized) *(Figure 52)*.

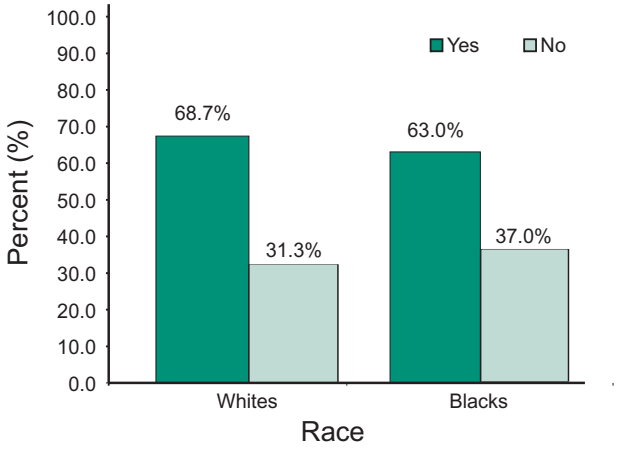
Figure 52. Stage at Diagnosis for Prostate Cancer, South Carolina, 1996-2001



Prostate Cancer Screening in South Carolina

According to the 2003 BRFSS data, 68.7% of white males and 63.0% of black males aged 40 and older in South Carolina report that they have ever had the prostate specific antigen (PSA) test *(Figure 53)*.

Figure 53. Prostate-Specific Antigen (PSA) Test*, Males Aged 40 and Older, South Carolina, 2003



*Reported ever having had a PSA test.
Source: South Carolina Behavioral Risk Factor Surveillance System

American Cancer Society Guidelines for the Early Detection of Prostate Cancer

Males aged 50 and older who have at least a 10-year life expectancy should talk with their health care professional about having a digital rectal examination of the prostate gland and a prostate specific antigen (PSA) blood test every year. Males who are at high risk for prostate cancer (Black males or males who have a first-degree relative diagnosed with prostate cancer at a young age) should begin testing at age 45.

UTERINE CANCER

Incidence

Uterine cancer is the 4th most common cancer diagnosed among women in South Carolina, accounting for 5% of all female cancer cases. From 1996-2001, a total of 2,511 uterine cancers were diagnosed in South Carolina, with the majority (72%) of cases occurring among white females *(Table 14)*.

There is one county (Hampton) that has an incidence rate significantly higher than the state average *(Figure 54)*.

The American Cancer Society estimates that 500 new cases of uterine cancer will occur among South Carolina females in 2005.

Mortality

Uterine cancer is the 11th most common type of cancer death in South Carolina females, accounting for over 2% of all cancer deaths in females between 1996-2001.

Uterine cancer mortality rates vary from year to year; however, black females have a higher uterine cancer mortality rate than white females in South Carolina *(Figure 55)*.

South Carolina currently ranks 25th in the nation in uterine cancer mortality.

Figure 54. Uterine Cancer Incidence Rates by County, South Carolina, 1996-2001

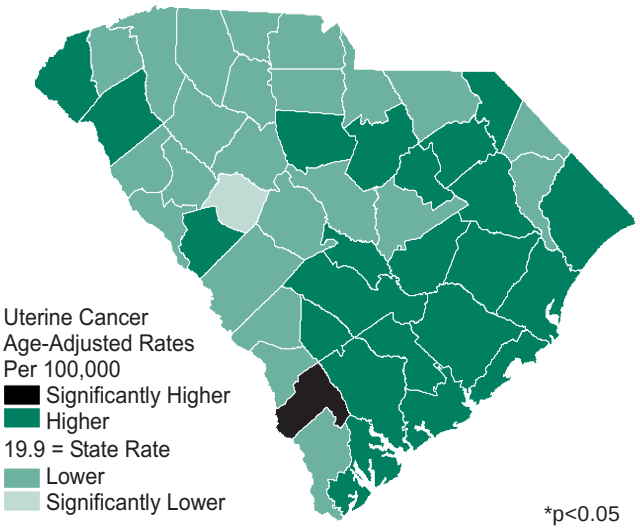
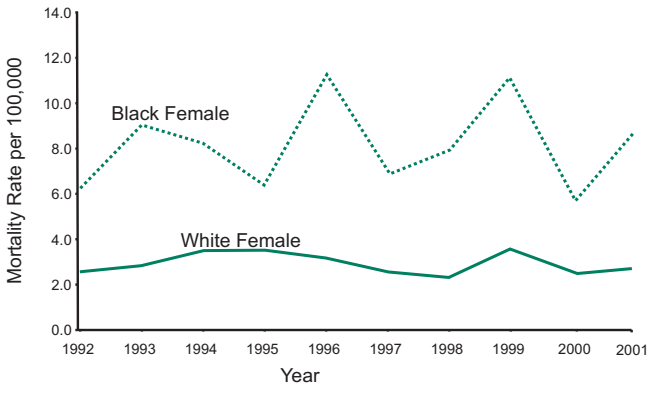


Figure 55. Uterine Cancer Mortality Rates* by Race, South Carolina, 1992-2001



*Rates per 100,000, age-adjusted to the 2000 US standard population.

Risk Factors

Age:
Risk increases with age.

Race:
One type of uterine sarcoma, leiomyosarcoma, is more common among blacks than whites. Overall, uterine cancer is more common in whites than in blacks.

Prior Pelvic Radiation:
Having received prior pelvic radiation increases the risk for developing uterine sarcomas.

Hormones:
Using certain types of estrogen replacement therapy, treatment with tamoxifen, infertility, starting the menstrual period before age 12, and entering menopause after age 50 all can increase risk.

Lifestyle:
Obesity increases risk.

Other:
Having diabetes increases risk.

A family history increases risk.

Women who have had breast cancer or ovarian cancer may have an increased risk.

Table 14. Uterine Cancer Incidence and Mortality in South Carolina

Incidence*	White Male	Black Male	All Males	White Female	Black Female	All Females	Total
Number of New Cases (1996-2001)	---	---	---	1,811	659	2,511	2,511
SC Incidence Rate (1996-2001)	---	---	---	19.3	21.5	19.9	19.9
SEER Incidence Rate (1996-2001)	---	---	---	26.1	18.3	24.5	24.5
Mortality*							
Number of Deaths (1996-2001)	---	---	---	273	260	533	533
SC Mortality Rate (1996-2001)	---	---	---	2.8	8.6	4.1	4.1
US Mortality Rate(1996-2001)	---	---	---	3.9	7.0	4.1	4.1

* Numbers and rates exclude in situ uterine cancers. Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Stage of Disease

Detecting uterine cancer in the early stages of the disease (i.e. in situ and localized) increases the chances of survival. Most uterine cancer is diagnosed early because of post-menopausal bleeding. A total of 72.2% of uterine cancer cases in South Carolina women were diagnosed in early stage, while 21.9% were diagnosed with later stage disease *(Figure 56)*.

The same pattern emerges when looking at uterine cancer by race. Both white and black women are more often diagnosed in early stage of disease. From 1996-2001, 76.7% of whites and 59.8% of blacks were diagnosed in early stage. While 18.7% of whites and 31.0% of blacks were diagnosed with late stage disease *(Figure 57)*.

Knowing the signs and symptoms of uterine cancer is important in improving the odds of early diagnosis and successful treatment.

Signs/Symptoms of Uterine Cancer

- Unusual bleeding, spotting, or other discharge, especially if it occurs after menopause
- Pelvic pain and/or pelvic mass*
- Weight loss*

**Pelvic pain and/or mass and weight loss usually occur in later stages of the disease.*

Figure 56. Stage at Diagnosis for Uterine Cancer, South Carolina, 1996-2001

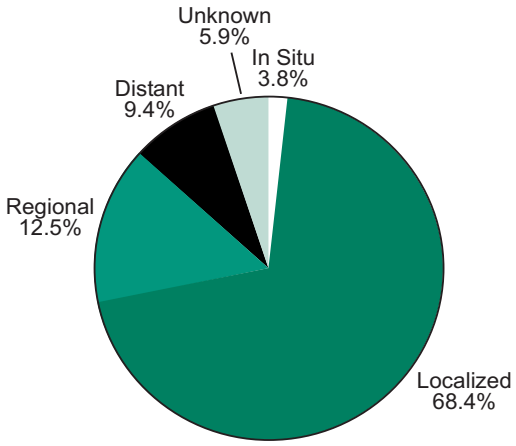
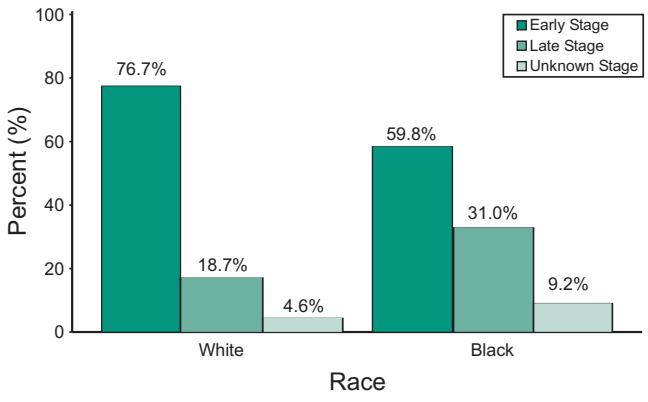


Figure 57. Stage at Diagnosis for Uterine Cancer by Race, South Carolina, 1996-2001



SPECIAL SECTION: CHILDHOOD CANCER

Childhood Cancer in South Carolina

Cancers in children and young adults account for only 0.9% of all cancers that are diagnosed.

Although rare, cancer is still the leading cause of death from disease in children under 15, second only to accidents in most age groups in 2004. However, because of significant advances in treatment and supportive care, mortality rates have decreased 50% since 1973[3].

From 1996 to 2001 in South Carolina, a total of 659 cancers were diagnosed among children ages 0-14, while 278 cancers were diagnosed among all young adults ages 15-19 *(Table 15)*.

Male children ages 0-14 were more likely to be diagnosed with cancer than female children of the same age in South Carolina. However, among young adults ages 15-19, females have a higher incidence rate than males.

White children in South Carolina are more likely to be diagnosed with cancer than black children regardless of age. Overall, the incidence of childhood cancer is lower in South Carolina than in the nation (Table 15).

The anatomical site of the primary tumor is used to categorize cancer among adults, while childhood cancers are classified primarily by histology into twelve major categories using the International Classification of Childhood Cancers (ICCC). Figure 58 presents the distribution of childhood cancers in South Carolina from 1996-2001 by ICCC grouping.

Three Major Categories of Childhood Cancer

Leukemia:

Leukemia is the most common cancer among children in the United States and South Carolina. Leukemia accounts for almost one-third of all cancers in children under 15 years of age. It is more common in males than in females. The most common form of leukemia among children is acute lymphocytic leukemia (ALL), which constitutes approximately 72% of all childhood leukemia. Children less than 5 years of age have the highest rates of ALL, and as age increases the rates of ALL decrease. ALL is slightly more common among white children than among black children.

In South Carolina between 1996-2001 a total of 241

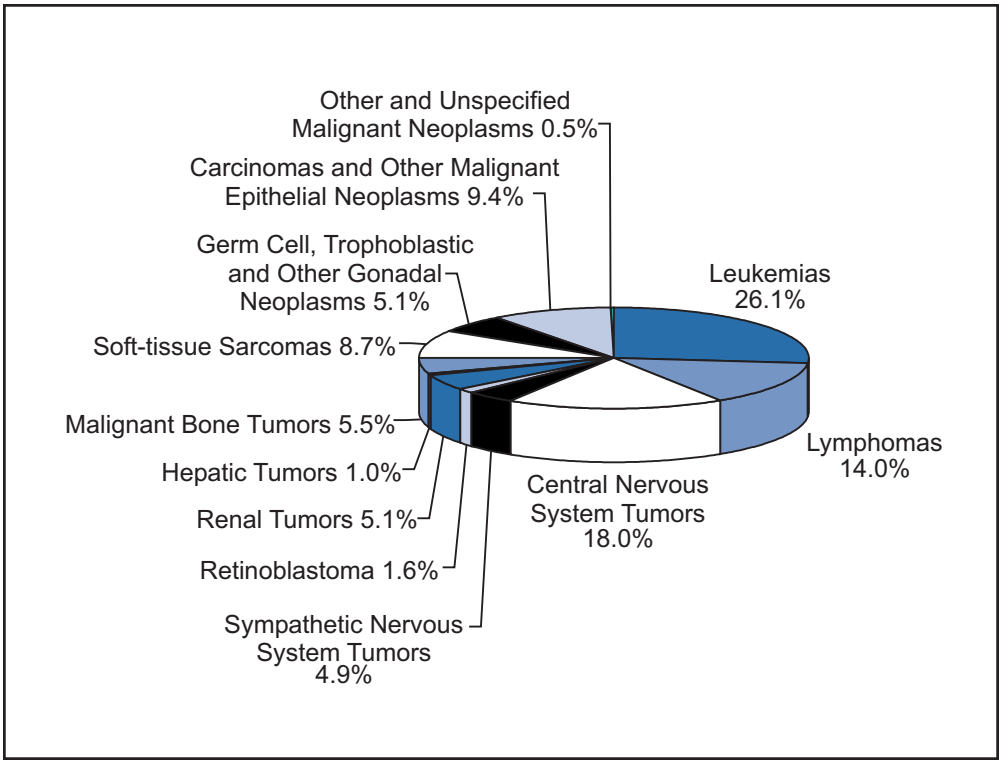


Figure 58. The Distribution of Childhood Cancers by ICCC Grouping, South Carolina, 1996-2001.

Table 15. Incidence of Childhood Cancer in South Carolina, 1996-2001

Incidence*	0-14 Years			0-19 Years		
	No. of Cases	SC Rate 1996-2001	SEER Rate 1996-2001	No. of Cases	SC Rate 1996-2001	SEER Rate 1996-2001
Male	368	147.9	154.1	507	150.7	167.4
Female	290	121.4	139.6	428	132.1	152.0
White	440	145.7	157.6	635	155.5	171.7
Black/Other	203	112.6	104.3	280	114.8	113.3
Total	659	135.1	147.0	937	141.9	159.9

*Numbers and rates exclude in situ cancers. Rates are per 1,000,000.

leukemia cases were diagnosed among children and young adults ages 0-19. Leukemia accounted for 25.7% of childhood cancers diagnosed in South Carolina during these years *(Figure 58)*.

Central Nervous System:

Central nervous system (CNS) tumors and associated neoplasms are the second most common type of cancer in children, accounting for over 20% of childhood cancers nationally. CNS tumors occur most often in children under 10 years of age.

Between 1996-2001, a total of 169 CNS tumors were diagnosed among those under 20 years of age. CNS tumors accounted for 18.0% of childhood cancers diagnosed during these years *(Figure 58)*.

Lymphomas:

Lymphoma is the third most common form of childhood cancer, accounting for more than 10% of cases among children under age 15, and more than 14% of cases under age 20. Lymphomas are divided into two general types: Hodgkin Lymphoma and Non-Hodgkin Lymphoma (NHL).

Hodgkin Lymphoma incidence increases with age. About 40% of cases are diagnosed in children 14 years of age or younger.

NHL is 1.6 times more common in boys than in girls, and it is 1.2 times more common in white children as in black children. NHL occurs from infancy through adolescence, NHL is rare under the age of 5.

In South Carolina from 1996-2001, a total of 131 lymphomas were diagnosed among children and young adults ages 0-19. Lymphomas accounted for 14.0% of childhood cancers diagnosed during these years *(Figure 58)*.

Risk Factors for Childhood Cancer

Many of the causes of childhood cancers remain unknown. However, science has discovered a few factors that can increase the risk of developing some childhood cancers.

Genetic Factors:

Infrequently occurring chromosomal disorders and clinical syndromes place some children at higher risk of developing cancer. Strong evidence exists of increased cancer risk among children with ataxia-telangiectasia, Fanconi's anemia, Bloom syndrome, Li-Fraumeni syndrome, neurofibromatosis, and Down syndrome.

In addition there are some childhood cancers that result from inherited genetic mutations. These cancers include retinoblastoma, Wilm's tumor, and neuroblastoma.

Prenatal and Postnatal Exposures:

Prenatal exposure to diagnostic irradiation increases the risk of childhood leukemia.

Postnatal exposures to ionizing radiation can also increase cancer risk in children.

In addition, survivors of childhood cancer who received chemotherapy and/or radiation are at increased risk of subsequent cancers.

A few childhood cancers have been associated with specific viral pathogens, most notably nasopharyngeal carcinoma and certain lymphomas associated with Epstein-Barr virus.

AMERICAN CANCER SOCIETY RESOURCES

College Scholarships

The American Cancer Society, South Atlantic Division College Scholarship Program is designed to provide childhood cancer survivors with the opportunity to reach their academic potential and their career dreams by earning a college degree. Eligibility requirements include verification of a diagnosis of cancer **before** the age of 21. The program gives childhood cancer survivors the opportunity to pursue a college degree from an accredited two or four-year university, community college or a vocational/technical school. Scholarships are awarded at a maximum of $1,000 annually and are based on the availability of funds.

Please contact the American Cancer Society, South Atlantic Division to learn all the additional eligibility requirements.

Resource Navigation for Patients

1-800-ACS-2345 is how you can reach your American Cancer Society 24 hours a day. If you have a question, anytime day or night, someone is there to help you. If you prefer, you can visit www.cancer.org to find information or e-mail you questions to us.

Through 1-800-ACS-2345 we can do much more than answer your questions about specific types of cancer. We can help you cope with the day-to-day challenges through our Patient Navigation/Resource Center. Our trained staff can help you find your way through what can be a confusing maze of options. We will work for you to find the help you need.

Our staff can provide you with information about the American Cancer Society support programs……I Can Cope, Reach to Recovery, Look Good-Feel Better, Road to Recovery and Man to Man. We can also provide you with information on other resources in your community that address the issues of insurance, transportation, financial, medication and other support issues.

We will work for you to find the help you need. We are here for patients, their families, their caregivers and their community from the time of diagnosis throughout the entire continuum of the cancer experience.

Table 1A. Number of Cancer Cases and Incidence Rates by Cancer Site, Race, and Gender, South Carolina, 1996-2001

	White Male		Black Male		White Female		Black Female		White		Black		Male		Female		Total	
Primary Site	**Cases***	**Rate****	**Cases***	**Rate****	**Cases***	**Rate****	**Cases***	**Rate****	**Cases***	**Rate****	**Cases***	**Rate****	**Cases***	**Rate****	**Cases***	**Rate****	**Cases***	**Rate****
Anus/Anal Canal	94	1.2	24	1.1	157	1.7	17	0.5	251	1.5	41	0.8	119	1.2	177	1.4	296	1.3
Bladder	2,852	40.2	310	16.8	792	8.1	185	6.2	3,644	21.3	495	10.1	3,192	35.4	985	7.7	4,177	18.9
Bones/Joints	79	1.0	26	0.8	60	0.7	30	0.8	139	0.9	56	0.8	106	1.0	90	0.7	196	0.9
Brain/CNS	628	8.0	124	4.6	526	5.9	116	3.5	1,154	6.9	240	4.0	759	7.3	649	5.2	1,408	6.1
Breast	118	1.7	45	2.1	12,023	129.8	3,505	111.6	12,141	71.5	3,552	65.5	165	1.8	15,696	126.1	15,863	70.6
Cervix	NA	NA	NA	NA	839	9.8	515	15.8	839	9.8	515	15.8	NA	NA	1,395	11.4	1,395	11.4
Colon/Rectum	4,764	66.4	1,459	71.9	4,309	44.8	1,578	52.0	9,073	53.8	3,038	59.8	6,286	67.9	5,938	46.7	12,226	55.4
Esophagus	564	7.3	478	21.9	178	1.8	122	4.0	742	4.3	600	11.5	1,048	10.4	304	2.4	1,353	6.0
Eye/Orbit	69	0.9	10	**	48	0.5	<5	**	117	0.7	10	**	80	0.8	55	0.4	135	0.6
Gallbladder	40	0.6	23	1.3	110	1.1	48	1.6	150	0.9	71	1.4	63	0.7	161	1.3	224	1.0
Hodgkins Disease	203	2.6	64	2.1	198	2.3	63	1.7	401	2.4	127	1.9	272	2.5	265	2.1	537	2.3
Kidney/Renal Pelvis	1,342	17.6	367	16.9	751	7.9	304	9.6	2,093	12.2	671	12.6	1,725	17.5	1,065	8.4	2,790	12.3
Larynx	721	9.3	319	14.5	181	1.9	54	1.8	902	5.2	373	7.1	1,051	10.4	237	1.9	1,288	5.6
Leukemia	968	13.6	277	12.4	761	8.2	227	7.0	1,729	10.5	504	9.2	1,262	13.4	1,006	8.0	2,268	10.3
Liver/Intrahepatic Bile Duct	428	5.8	133	6.2	177	1.8	75	2.4	605	3.6	208	3.9	577	6.1	265	2.1	843	3.8
Lung/Bronchus	8,158	108.1	2,352	114.4	5,157	53.2	1,090	35.9	13,316	76.2	3,442	67.2	10,561	109.7	6,293	49.2	16,856	74.4
Melanoma of Skin	1,958	25.4	25	1.2	1,469	16.6	41	1.3	3,427	20.2	66	1.3	2,051	20.4	1,579	12.8	3,630	15.9
Myeloma	412	5.8	225	11.6	359	3.7	306	10.1	771	4.5	531	10.6	647	7.1	674	5.3	1,321	6.0
Non-Hodgkins Lymphoma	1,572	21.3	316	13.6	1,426	15.0	322	10.2	2,998	17.7	638	11.6	1,914	19.9	1,767	13.9	3,682	16.4
Oral Cavity/Pharynx	1,412	18.4	602	25.9	656	6.9	200	6.3	2,068	12.1	802	14.7	2,030	20.1	867	6.9	2,897	12.8
Other Digestive Organs	184	2.6	48	2.4	183	1.9	61	2.0	367	2.2	109	2.1	233	2.5	244	1.9	477	2.2
Other Endocrine/Thymus	50	0.6	21	0.8	45	0.5	21	0.6	95	0.6	42	0.7	73	0.7	68	0.6	141	0.6
Other Female Genital Organs	NA	NA	NA	NA	404	4.4	100	3.2	404	4.4	100	3.2	NA	NA	516	4.1	516	4.1
Other Male Genital Organs	19	0.3	<5	**	NA	NA	NA	NA	19	0.3	<5	**	21	0.2	NA	NA	21	0.2
Other Respiratory Organs	217	2.9	40	1.8	74	0.8	26	0.8	291	1.7	66	1.2	260	2.7	102	0.8	362	1.6
Other Urinary System	23	0.3	10	**	12	**	14	**	35	0.2	22	0.4	32	0.3	27	0.2	59	0.3
Ovary	NA	NA	NA	NA	1,381	14.8	330	10.4	1,381	14.8	330	10.4	NA	NA	1,732	13.8	1,732	13.8
Pancreas	858	12.0	303	15.0	850	8.7	408	13.5	1,708	10.1	711	14.3	1,165	12.7	1,263	9.9	2,428	11.1
Penis	70	1.0	26	1.4	NA	NA	NA	NA	70	1.0	26	1.4	98	1.1	NA	NA	98	1.1
Prostate	11,578	152.4	5,385	272.9	NA	NA	NA	NA	11,578	152.4	5,385	272.9	17,338	180.8	NA	NA	17,338	180.8
Small Intestine	112	1.5	54	2.7	105	1.1	63	2.0	217	1.3	117	2.3	167	1.7	170	1.4	337	1.5
Soft Tissues	234	3.1	86	3.4	185	2.1	92	2.8	419	2.5	178	3.0	328	3.3	279	2.3	607	2.7
Stomach	617	8.6	421	21.3	339	3.5	271	8.9	956	5.7	692	13.8	1,048	11.4	619	4.8	1,667	7.6
Testis	415	5.0	39	1.2	NA	NA	NA	NA	415	5.0	39	1.2	459	3.9	NA	NA	459	3.9
Thyroid	236	2.9	32	1.4	717	8.4	189	5.6	953	5.7	221	3.7	272	2.6	928	7.6	1,200	5.2
Unknown Primary	1,086	15.7	389	19.0	1,044	10.8	379	12.4	2,130	12.8	768	15.2	1,496	16.6	1,437	11.3	2,933	13.5
Ureter	72	1.0	10	**	34	0.3	<5	**	106	0.6	12	**	81	0.9	38	0.3	119	0.5
Uterus (Corpus, NOS)	NA	NA	NA	NA	1,811	19.3	659	21.5	1,811	19.3	659	21.5	NA	NA	2,511	19.9	2,511	19.9
All Sites	**42,291**	**567.1**	**14,075**	**684.9**	**37,441**	**399.7**	**11,438**	**367.6**	**79,734**	**465.8**	**25,516**	**489.7**	**57,158**	**596.8**	**49,503**	**393.6**	**106,671**	**474.3**

*Number excludes in situ cases of cancer, except in situ bladder. Counts of less than 5 cases are denoted as <5. Counts between 5 and 9 are rounded to 10.

**Rate per 100,000, age-adjusted to the 2000 US standard population. Rates are not calculated for 15 or fewer cases.

Table 2A. Number of New Cancer Cases by Cancer Site and 5-Year Age Group, South Carolina, 1996-2001

	Number of Cases*																	
Primary Site	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**45-49**	**50-54**	**55-59**	**60-64**	**65-69**	**70-74**	**75-79**	**80-84**	**85+**
Anus/Anal Canal	<5	<5	<5	<5	<5	<5	10	14	30	25	32	36	24	37	30	24	17	18
Bladder	<5	<5	<5	<5	<5	10	21	26	72	119	223	353	455	629	790	684	463	327
Bones/Joints	<5	10	25	18	15	16	10	13	16	16	10	11	10	10	13	10	10	10
Brain/CNS	51	54	30	31	23	55	50	65	86	89	116	110	131	143	159	128	60	27
Breast	<5	<5	<5	<5	10	92	238	673	1,086	1,515	1,826	1,759	1,833	1,771	1,762	1,551	997	751
Breast (Female)	<5	<5	<5	<5	10	92	237	668	1,080	1,500	1,814	1,738	1,811	1,751	1,740	1,531	987	738
Breast (Male)	<5	<5	<5	<5	<5	<5	<5	10	10	15	10	21	22	20	22	20	10	13
Cervix	<5	<5	<5	<5	16	88	125	166	187	170	122	100	117	73	77	54	48	49
Colon/Rectum	<5	<5	<5	<5	17	43	83	180	333	605	853	1,104	1,387	1,588	1,897	1,766	1,265	1,102
Esophagus	<5	<5	<5	<5	<5	<5	<5	10	34	92	140	173	224	197	204	149	79	50
Eye/Orbit	15	<5	<5	<5	<5	<5	<5	<5	10	10	11	17	10	13	16	10	11	10
Gallbladder	<5	<5	<5	<5	<5	<5	<5	<5	10	10	<5	12	25	29	38	40	28	31
Hodgkins Disease	<5	<5	22	39	66	54	51	61	44	37	27	17	29	23	23	17	12	11
Kidney/Renal Pelvis	34	10	10	<5	10	14	25	60	118	201	243	298	322	433	406	335	180	97
Larynx	<5	<5	<5	<5	<5	<5	<5	15	43	100	149	184	216	193	172	119	68	22
Leukemia	86	58	55	42	32	31	43	67	68	80	135	139	173	248	316	280	213	202
Liver/Intrahepatic Bile Duct	10	<5	<5	<5	<5	<5	10	11	41	69	65	63	89	117	107	131	77	47
Lung/Bronchus	<5	<5	<5	<5	<5	11	32	126	299	655	1,194	1,790	2,332	2,970	3,136	2,447	1,241	615
Melanoma of Skin	<5	<5	<5	16	68	111	195	246	297	340	356	340	338	391	373	283	158	113
Myeloma	<5	<5	<5	<5	<5	<5	<5	11	35	68	87	122	170	178	216	205	128	98
Non-Hodgkins Lymphoma	<5	15	20	27	22	61	64	108	164	198	296	337	378	483	504	462	330	210
Oral Cavity/Pharynx	<5	<5	10	11	10	13	33	67	157	308	361	353	377	355	309	269	154	116
Other Digestive Organs	<5	<5	<5	<5	<5	<5	10	10	23	20	34	43	55	67	62	67	45	39
Other Endocrine/Thymus	15	<5	<5	<5	<5	<5	10	10	10	13	10	10	13	12	16	10	<5	<5
Other Female Genital Organs	<5	<5	<5	<5	<5	<5	15	18	37	41	47	45	28	51	58	54	60	51
Other Male Genital Organs	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Other Respiratory Organs	10	<5	10	<5	<5	10	10	10	11	15	33	25	32	44	60	57	29	17
Other Urinary System	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	10	10	12	10	10	<5
Ovary	<5	<5	10	10	10	33	36	62	97	124	143	171	215	210	188	214	118	96
Pancreas	<5	<5	<5	<5	<5	<5	<5	22	48	108	170	193	271	329	361	386	276	256
Penis	<5	<5	<5	<5	<5	<5	<5	<5	10	<5	10	10	11	10	18	12	10	13
Prostate	<5	<5	<5	<5	<5	<5	<5	<5	68	325	1,006	1,779	2,733	3,780	3,431	2,392	1,162	657
Small Intestine	<5	<5	<5	<5	<5	<5	<5	10	12	25	37	32	36	45	44	49	24	18
Soft Tissues	18	11	15	20	19	24	23	43	34	37	63	45	38	45	58	49	36	29
Stomach	<5	<5	<5	<5	<5	10	10	30	42	78	105	143	167	219	249	226	206	180
Testis	<5	<5	<5	15	42	84	89	91	48	40	19	<5	10	10	<5	<5	<5	<5
Thyroid	<5	<5	10	15	56	85	114	118	124	132	121	99	92	72	63	54	30	15
Unknown Primary	10	<5	<5	10	10	14	25	48	78	144	214	226	248	348	385	430	367	343
Ureter	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	10	16	22	25	22	15	<5
Uterus (Corpus, NOS)	<5	<5	<5	<5	10	19	33	67	98	147	239	274	343	382	326	280	182	113
All Sites	258	175	226	278	451	898	1,374	2,485	3,882	5,976	8,519	10,442	13,010	15,547	15,941	13,309	8,140	5,760

*Number excludes in situ cases of cancer, except bladder in situ. Counts of less than 5 cases are denoted as <5. Counts between 5 and 9 are rounded to 10.

Table 3A. Age-Specific Incidence Rates by Cancer Site and 5-Year Age Group, South Carolina, 1996-2001

	Age-Specific Rate*																	
Primary Site	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**45-49**	**50-54**	**55-59**	**60-64**	**65-69**	**70-74**	**75-79**	**80-84**	**85+**
Anus/Anal Canal	***	***	***	***	***	***	***	***	1.6	1.6	2.3	3.2	2.5	4.3	4.1	4.2	4.9	6.7
Bladder	***	***	***	***	***	***	1.2	1.4	4.0	7.4	16.0	31.7	48.0	72.8	107.3	118.7	132.5	121.0
Bones/Joints	***	***	1.5	1.0	***	0.9	***	***	0.9	1.0	***	***	***	***	***	***	***	***
Brain/CNS	3.2	3.3	1.8	1.8	1.4	3.2	2.9	3.5	4.7	5.5	8.3	9.9	13.8	16.6	21.6	22.2	17.2	10.0
Breast	***	***	***	***	***	5.4	13.7	36.2	59.7	94.2	130.9	157.7	193.5	205.0	239.2	269.2	285.3	277.8
Breast (Female)	***	***	***	***	***	10.7	26.9	70.3	116.2	181.7	250.4	296.1	357.5	369.8	413.6	441.2	432.9	369.6
Breast (Male)	***	***	***	***	***	***	***	***	***	***	***	4.0	5.0	5.1	7.0	8.7	***	***
Cervix	***	***	***	***	1.9	10.2	14.2	17.5	20.1	20.6	16.8	17.0	23.1	15.4	18.3	15.6	21.1	24.5
Colon/Rectum	***	***	***	***	1.0	2.5	4.8	9.7	18.3	37.6	61.1	99.0	146.4	183.8	257.6	306.6	362.0	407.7
Esophagus	***	***	***	***	***	***	***	***	1.9	5.7	10.0	15.5	23.7	22.8	27.7	25.9	22.6	18.5
Eye/Orbit	***	***	***	***	***	***	***	***	***	***	***	1.5	***	***	2.2	***	***	***
Gallbladder	***	***	***	***	***	***	***	***	***	***	***	***	2.6	3.4	5.2	6.9	8.0	11.5
Hodgkin's Disease	***	***	1.3	2.3	3.9	3.2	2.9	3.3	2.4	2.3	1.9	1.5	3.1	2.7	3.1	3.0	***	***
Kidney/Renal Pelvis	2.2	***	***	***	***	***	1.4	3.2	6.5	12.5	17.4	26.7	34.0	50.1	55.1	58.2	51.5	35.9
Larynx	***	***	***	***	***	***	***	***	2.4	6.2	10.7	16.5	22.8	22.3	23.4	20.7	19.5	8.1
Leukemia	5.5	3.5	3.3	2.4	1.9	1.8	2.5	3.6	3.7	5.0	9.7	12.5	18.3	28.7	42.9	48.6	61.0	74.7
Liver/Intrahepatic Bile Duct	***	***	***	***	***	***	***	***	2.3	4.3	4.7	5.6	9.4	13.5	14.5	22.7	22.0	17.4
Lung/Bronchus	***	***	***	***	***	***	1.8	6.8	16.4	40.7	85.6	160.5	246.2	343.8	425.8	424.8	355.1	227.5
Melanoma of Skin	***	***	***	0.9	4.0	6.5	11.3	13.2	16.3	21.1	25.5	30.5	35.7	45.3	50.6	49.1	45.2	41.8
Myeloma	***	***	***	***	***	***	***	***	1.9	4.2	6.2	10.9	17.9	20.6	29.3	35.6	36.6	36.3
Non-Hodgkin's Lymphoma	***	***	1.2	1.6	1.3	3.6	3.7	5.8	9.0	12.3	21.2	30.2	39.9	55.9	68.4	80.2	94.4	77.7
Oral Cavity/Pharynx	***	***	***	***	***	***	1.9	3.6	8.6	19.1	25.9	31.7	39.8	41.1	42.0	46.7	44.1	42.9
Other Digestive Organs	***	***	***	***	***	***	***	***	1.3	1.2	2.4	3.9	5.8	7.8	8.4	11.6	12.9	14.4
Other Endocrine/Thymus	***	***	***	***	***	***	***	***	***	***	***	***	***	***	2.2	***	***	***
Other Female Genital Organs	***	***	***	***	***	***	***	1.9	4.0	5.0	6.5	7.7	5.5	10.8	13.8	15.6	26.3	25.5
Other Male Genital Organs	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Other Respiratory Organs	***	***	***	***	***	***	***	***	***	***	2.4	2.2	3.4	5.1	8.1	9.9	8.3	6.3
Other Urinary System	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Ovary	***	***	***	***	***	3.8	4.1	6.5	10.4	15.0	19.7	29.1	42.4	44.4	44.7	61.7	51.8	48.1
Pancreas	***	***	***	***	***	***	***	1.2	2.6	6.7	12.2	17.3	28.6	38.1	49.0	67.0	79.0	94.7
Penis	***	***	***	***	***	***	***	***	***	***	***	***	***	***	5.7	***	***	***
Prostate	***	***	***	***	***	***	***	***	7.6	41.5	149.9	336.8	620.4	968.4	1,086.5	1,044.4	956.6	930.1
Small Intestine	***	***	***	***	***	***	***	***	***	1.6	2.7	2.9	3.8	5.2	6.0	8.5	6.9	6.7
Soft Tissues	1.1	***	***	1.2	1.1	1.4	1.3	2.3	1.9	2.3	4.5	4.0	4.0	5.2	7.9	8.5	10.3	10.7
Stomach	***	***	***	***	***	***	***	1.6	2.3	4.8	7.5	12.8	17.6	25.4	33.8	39.2	58.9	66.6
Testis	***	***	***	***	5.0	10.0	10.5	10.0	5.4	5.1	2.8	***	***	***	***	***	***	***
Thyroid	***	***	***	***	3.3	5.0	6.6	6.3	6.8	8.2	8.7	8.9	9.7	8.3	8.6	9.4	8.6	***
Unknown Primary	***	***	***	***	***	***	1.4	2.6	4.3	9.0	15.3	20.3	30.3	40.3	52.3	74.6	105.0	126.9
Ureter	***	***	***	***	***	***	***	***	***	***	***	***	1.7	2.5	3.4	3.8	***	***
Uterus (Corpus, NOS)	***	***	***	***	***	2.2	3.7	7.1	10.5	17.8	33.0	46.7	67.7	80.7	77.5	80.7	79.8	56.6
All Sites	16.4	10.6	13.7	16.2	26.8	52.7	79.3	133.5	213.3	371.4	610.5	936.3	1,373.7	1,799.7	2,164.4	2,310.3	2,329.3	2,130.9

*Rate per 100,000.

***Rates are not calculated for 15 or fewer cases.

Table 4A. Number of Cancer Cases by County, South Carolina, 1996-2001

County	Number of Cases*										
	All Sites	Prostate	Lung	Breast (Female)	Colon/ Rectum	Bladder	Melanoma of Skin	NHL	Oral/ Pharynx	Kidney/ Renal Pelvis	Cervix
Abbeville	742	124	111	110	99	33	25	26	25	15	10
Aiken	3,489	447	598	529	442	123	97	139	88	83	47
Allendale	304	48	46	57	36	10	<5	13	11	10	10
Anderson	4,901	763	742	725	598	226	150	176	133	144	44
Bamberg	483	112	87	71	44	10	10	13	11	10	13
Barnwell	590	103	77	99	59	27	17	24	18	10	<5
Beaufort	3,563	683	492	558	323	201	131	119	97	84	34
Berkeley	3,086	526	518	423	339	126	106	115	71	85	41
Calhoun	331	62	50	35	44	20	10	10	10	10	10
Charleston	8,790	1,553	1,322	1,228	997	308	342	308	271	231	86
Cherokee	1,517	231	272	237	187	47	39	53	33	48	23
Chester	1,044	183	173	140	144	41	34	24	30	31	21
Chesterfield	956	121	175	129	110	26	25	34	30	30	20
Clarendon	909	158	135	114	119	35	17	30	29	29	12
Collenton	1,227	225	214	164	148	29	21	41	25	36	16
Darlington	1,890	286	337	265	233	56	55	58	53	50	30
Dillon	821	131	149	119	83	31	21	29	19	21	13
Dorchester	2,328	395	332	355	270	83	79	101	54	72	29
Edgefield	556	75	110	67	59	16	15	17	18	14	10
Fairfield	675	127	107	98	86	20	10	12	21	21	15
Florence	3,499	604	556	514	396	127	98	56	99	99	46
Georgetown	2,039	400	286	260	209	89	82	326	64	60	26
Greenville	9,685	1,660	1,473	1,513	1,029	355	452	81	229	274	121
Greenwood	1,910	286	279	293	243	80	69	18	51	39	17
Hampton	613	115	88	77	65	26	15	195	12	10	12
Horry	6,206	1,033	1,025	854	661	356	293	11	177	160	61
Jasper	410	64	76	52	42	12	10	54	10	12	13
Kershaw	1,609	215	273	232	194	53	62	60	49	41	28
Lancaster	1,576	220	240	192	231	80	72	61	52	33	21
Laurens	1,745	250	299	261	247	52	41	11	46	30	24
Lee	457	83	66	67	57	12	13	216	11	10	10
Lexington	5,344	627	886	828	629	222	223	10	149	159	60
Marion	274	45	45	40	39	13	<5	30	10	<5	<5
Marlboro	968	191	159	110	106	34	29	23	27	28	27
McCormick	799	102	143	116	112	26	10	41	26	21	15
Newberry	1,139	162	178	171	143	47	30	73	26	37	14
Oconee	2,017	314	325	293	237	96	64	77	41	53	26
Orangeburg	2,869	633	392	390	323	88	62	93	81	58	49
Pickens	2,686	479	432	365	276	143	119	291	56	74	29
Richland	7,607	1,149	1,155	1,238	827	234	205	291	232	195	112
Saluda	276	40	31	47	43	14	14	16	10	10	<5
Spartanburg	6,544	983	1,142	1,063	769	232	207	218	168	140	69
Sumter	2,619	482	390	332	274	88	75	82	81	80	38
Union	969	112	168	147	129	40	23	37	28	36	12
Williamsburg	763	147	111	94	88	24	10	27	25	20	12
York	3,782	576	582	617	432	169	149	121	102	90	69
South Carolina	**106,671**	**17,338**	**16,856**	**15,696**	**12,226**	**4,177**	**3,630**	**3,682**	**2,897**	**2,790**	**1,395**

*Numbers exclude in situ cancers, except bladder. Numbers are subject to change as files are updated. Counts of less than 5 cases are denoted as <5. Counts of 5 to 9 cases are rounded to 10.

NHL: Non-Hodgkin's Lymphoma

Table 5A. Age-Adjusted Incidence Rates by County, South Carolina, 1996-2001

County	Age-Adjusted Rate*										
	All Sites	Prostate	Lung/ Bronchus	Breast (Female)	Colon/ Rectum	Bladder	Melanoma of Skin	NHL	Oral/ Pharynx	Kidney/ Renal Pelvis	Cervix
Abbeville	440.3	170.3	64.3	118.4	58.7	19.1	15.9	15.7	15.2	***	***
Aiken	428.0	124.9	72.1	118.1	55.3	15.1	11.9	17.1	10.7	10.2	10.8
Allendale	477.5	179.7	72.1	169.3	55.7	***	***	***	***	***	***
Anderson	466.0	170.2	69.4	125.3	57.6	21.4	14.5	16.9	12.7	13.6	8.3
Bamberg	484.0	262.1	84.9	128.7	43.4	***	***	***	***	***	***
Barnwell	454.0	186.8	59.0	136.5	45.3	20.7	13.3	18.3	14.0	***	***
Beaufort	499.1	192.1	67.7	152.5	45.3	28.0	18.3	16.8	14.1	11.8	10.6
Berkeley	543.2	216.3	95.6	128.9	63.7	24.4	15.2	20.1	12.6	15.2	11.8
Calhoun	357.4	152.7	53.4	68.1	47.5	21.4	***	***	***	***	***
Charleston	521.6	215.2	78.7	131.6	60.4	18.6	19.5	18.4	16.1	13.7	9.1
Cherokee	492.2	186.5	86.9	137.4	61.0	15.0	13.0	17.2	10.9	15.4	14.6
Chester	499.5	215.2	81.5	120.4	69.1	20.1	16.6	11.7	14.6	14.6	18.6
Chesterfield	380.7	119.2	67.6	93.2	43.9	10.1	9.9	13.9	12.0	11.7	14.8
Clarendon	466.0	178.9	68.8	109.9	61.7	17.3	8.7	15.7	14.9	14.7	***
Colleton	532.4	222.7	91.5	131.9	64.8	12.4	9.3	18.1	10.6	15.2	13.1
Darlington	478.2	175.5	85.4	118.6	59.4	14.3	13.8	14.6	13.5	12.7	13.3
Dillon	479.5	206.3	85.6	121.8	49.0	18.2	12.6	16.5	10.8	12.1	***
Dorchester	548.9	227.4	82.1	145.5	67.1	20.7	16.5	23.7	12.4	17.1	11.0
Edgefield	458.5	141.8	90.5	101.8	49.6	13.7	***	13.9	14.5	***	***
Fairfield	473.6	204.4	74.2	132.6	60.0	14.0	***	***	14.7	14.6	***
Florence	491.5	209.2	77.5	126.0	56.8	18.5	13.6	15.9	13.8	13.8	11.4
Georgetown	568.9	242.2	75.9	135.0	60.3	24.1	22.4	16.6	18.5	16.8	14.4
Greenville	455.8	187.4	69.0	126.8	49.4	17.0	20.8	15.5	10.7	12.8	10.4
Greenwood	463.6	166.5	66.6	126.9	59.2	19.1	17.5	19.4	12.6	9.3	8.3
Hampton	529.4	243.4	75.0	121.1	57.1	23.1	***	15.4	***	***	***
Horry	511.6	179.1	81.3	133.2	56.8	29.5	25.1	16.6	14.5	12.9	10.5
Jasper	398.6	137.9	73.8	94.6	41.8	***	***	***	***	***	***
Kershaw	529.9	164.4	88.3	138.2	65.4	17.3	19.9	18.0	16.2	13.4	17.1
Lancaster	439.4	146.3	65.6	96.2	65.4	22.4	19.9	16.7	14.6	9.3	11.5
Laurens	425.3	149.4	72.0	113.3	60.5	12.7	10.1	15.0	11.3	7.1	11.6
Lee	402.5	189.2	58.3	104.5	49.8	***	***	***	***	***	***
Lexington	491.8	135.3	82.8	134.3	60.0	22.0	18.8	20.1	13.2	14.5	9.2
Marion	470.7	244.8	75.9	92.1	51.8	16.6	14.2	14.9	13.4	13.5	23.7
Marlboro	464.0	150.4	81.6	120.1	66.2	14.5	***	13.2	15.0	12.5	***
McCormick	406.1	150.5	64.7	121.3	57.5	***	***	***	***	***	***
Newberry	482.7	162.0	73.9	134.5	59.6	19.1	13.4	17.3	11.1	15.6	***
Oconee	442.9	149.1	68.5	119.2	53.2	20.9	14.5	16.3	8.7	11.6	12.1
Orangeburg	541.2	289.3	72.6	132.9	60.9	16.9	11.6	14.6	15.5	11.0	17.2
Pickens	440.6	186.4	70.3	110.1	45.7	23.6	19.5	15.2	9.1	12.1	9.3
Richland	494.9	179.5	77.0	141.9	55.5	16.0	12.7	18.7	14.9	12.6	11.8
Saluda	236.0	79.1	25.5	74.7	37.0	***	***	13.8	***	***	***
Spartanburg	427.3	148.8	73.7	125.0	50.9	15.2	13.5	14.3	11.0	9.1	8.6
Sumter	477.5	213.9	72.2	107.7	51.0	16.6	13.0	14.7	14.5	14.2	12.0
Union	463.7	127.7	78.1	126.8	61.2	19.0	12.1	17.4	13.3	17.1	***
Williamsburg	351.4	171.7	50.6	76.0	40.8	11.1	***	12.3	11.9	9.3	***
York	437.6	160.8	67.7	127.1	51.7	20.5	16.6	14.0	11.4	10.2	14.1
South Carolina	**474.3**	**180.8**	**74.4**	**126.1**	**55.4**	**18.9**	**15.9**	**16.4**	**12.8**	**12.3**	**11.4**

*Rates per 100,000, age-adjusted to the 2000 US standard population. ***Rates based on 15 or fewer cases are suppressed due to the instability of small numbers when calculating rates.

NHL: Non-Hodgkin's Lymphoma

DATA OVERVIEW

Data Sources

Cancer incidence data are based on cases reported to the South Carolina Central Cancer Registry (SCCCR), located within the Office of Public Health Statistics and Information Services (PHSIS) of the Department of Health and Environmental Control (DHEC). The cancer incidence data highlighted in this report were grouped by site according to the International Classification of Disease for Oncology, Third Edition codes for cancer. Cancer incidence and staging analyses were performed by the South Carolina Central Cancer Registry.

Cancer mortality data are based on information collected by the PHSIS Division of Vital Registry located within DHEC. The cancer mortality data highlighted in this report were grouped by site according to the International Classification of Disease, Versions 9 and 10. The Divisions of Biostatistics and the Cancer Registry performed cancer mortality analyses.

The national data used for comparison were obtained from the National Cancer Institute's SEER (Surveillance, Epidemiology, and End Results) program. The SEER program is made up of fourteen population based cancer registries across the United States. SEER data are representative of approximately 14% of the U.S. population, an appropriate comparison dataset.

Risk factor and screening data were obtained from the Behavioral Risk Factor Surveillance System (BRFSS), a state-based surveillance system administered by DHEC, in collaboration with the Centers for Disease Control and Prevention. The objective of the BRFSS is to collect information on health practices and risk behaviors in the adult population. Information is self-reported and does not include South Carolinians without a household telephone.

Methods

All in situ and invasive malignant neoplasms are reported to the South Carolina Central Cancer Registry with several exceptions. Basal and squamous cell carcinomas of the skin are not reported, except when originating in mucous membranes. Carcinoma in situ of the cervix is not reported as directed by the National Program of Cancer Registries. All other malignancies are reportable.

The data in this report include only invasive cancers, with one exception – bladder cancer. The cancer data are presented in this way so that they are comparable to SEER data.

Incidence rates for South Carolina were calculated per 100,000 population and age-adjusted to the 2000 US standard. Rates were calculated on incidence data for the period 1996 through 2001.

Mortality rates for South Carolina were calculated per 100,000 population and age-adjusted to the 2000 US standard. Except where calculated to show trends, the mortality rates are six-year rates for the period 1996 through 2001.

GLOSSARY

Age-adjusted rate – Cancer rates vary with age, and populations vary by their age-distributions. Age adjustment allows for comparison of rates between different populations with different age structure. The "effect of age" is no longer present upon age adjustment. In this report, age-adjusted rates are calculated for incidence and mortality by the direct method, using the age distribution of the 1970 US standard population. All age-adjusted rates are expressed per 100,000 population, and include only invasive cancers, with the exception of bladder in situ cancers.

Age-specific rate – The number of new cases diagnosed per 100,000 population over a specific time period for a specific age group. In this report, age-specific numbers are expressed in five year age groups (i.e. 0-4, 5-9, 10-14, etc.).

Behavioral Risk Factor Surveillance System (BRFSS) - a state-based surveillance system administered by the South Carolina Department of Health and Environmental Control, in collaboration with the Centers for DiseaseControl. The objective of the Behavioral Risk Factor Surveillance System is to collect information on health practices and risk behaviors in the adult population.

Cancer site – The body organ or system where cancer originates; the anatomical site or origin.

Centers for Disease Control (CDC) - Located in Atlanta, GA, the CDC is an agency of the Department of Health and Human Services. The CDC serves as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and education activities designed to improve the health of people of the United States.

Crude rate – The number of new cases or deaths during a specific time period per 100,000 individuals. There is no consideration (adjustment) given to the age factor.

Distant – Classification for cancer spread beyond adjacent organs or tissues, and/or metastasis to distant lymph nodes or tissues.

Five-year survival – The percentage of people with a given cancer who are expected to survive five years or longer with the disease.

In situ – Classification for pre-invasive malignancies, those that do not invade the basement membrane.

Incidence – The number of new cases diagnosed during a specific time period (i.e. one year).

Localized – Classification for invasive malignancies that are confined to the organ of origin.

Mammogram – An x-ray of the breast used to help find breast cancer early in women without any symptoms.

Metastasis – Movement of disease from one organ or part to another not directly connected.

Mortality – The number of deaths occurring during a specific time period. Diagnosis may have occurred prior to that specific time period.

National Program of Cancer Registries (NPCR)- Funded by the CDC, the NPCR is a population-based system of cancer registries established in 1992 by the Central Cancer Registries Amendment Act (Public Law 102-515). When fully implemented, programs funded by NPCR will collect data on cancer for 96% of the US population.

Pap smear – A specimen of cellular material scraped from the cervix of the uterus that is stained and examined under a microscope in order to determine if cancerous or precancerous changes are present.

Prevalence – A measure of the proportion of persons in a population with a certain disease at a given time.

Prostate-Specific Antigen (PSA) – A gland protein made primarily by the prostate. The PSA test is a blood test that measures the levels of PSA in order to detect prostate cancer as well as monitor the results of treatment.

Regional – Classification for cancer spread by direct extension to adjacent organs or tissue, and/or spread to lymph nodes considered regional to the organ of origin, but no further spread has occurred.

Risk factor – Anything that increases a person's chance of getting a disease. Examples include smoking, diet, and age.

Sigmoidoscopy/Proctoscopy – Procedure in which the inside of the rectum and sigmoid colon are viewed through a lighted tube to detect pre-malignant or malignant growths.

Surveillance, Epidemiology and End Results (SEER)- Program of the National Cancer Institute that collects and publishes cancer incidence and survival data from 13 population-based cancer registries and three supplemental registries covering approximately 14 percent of the United States population.

Stage at diagnosis – The extent of disease spread from the organ or origin at time of diagnosis. This report uses SEER General Summary Staging System. This system includes five stages: in situ, localized, regional, distant, and unstaged. In this report, in situ and localized are classified as "early stage." Regional and distant are considered "late stage." Cancers diagnosed as in situ are considered pre-invasive. Localized, regional, and distant staged cancers are invasive.

Unstaged – Classification resulting from insufficient information available to determine stage of disease at diagnosis.

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